

Draft Environmental Impact Report

Trans Pacific Centre

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DRAFT ENVIRONMENTAL IMPACT REPORT TRANS PACIFIC CENTRE OAKLAND, CALIFORNIA

(EIP 81-117) February 24, 1982



File No. ER 81-78 Ref. No.

City of Oakland Oakland, California

DRAFT ENVIRONMENTAL IMPACT REPORT FOR: Trans Pacific Centre Phase II (Project name)

(Project name)
California Environmental Quality Act (CEOA)

SUMMARY

A. GENER	AL I	NFORM	ATION
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Project Title	Trans Pacific Centre Phase II
Location	Downtown Oakland, California
Project Sponsor_	Asian Holdings, Inc.
Address	1221 Broadway, Suite 820
	Oakland, CA 94612

B. PROJECT DESCRIPTION:

See Section III, page 12

C. SUMMARY OF ENVIRONMENTAL CONSEQUENCES OF THE PROJECT:

See Section I, page 1

D. POSSIBLE MITIGATION MEASURES TO MINIMIZE ANY ADVERSE EFFECTS OF THE PROJECT:

Traffic & Transportation, see page 83
Air Quality, see page 99
Noise, see page 110
Visual Quality and Urban Design, see page 172
Shade and Shadow, see page 184
Community Services, see page 189
Energy, see page 205
Geology, Hydrology, and Seismicity, see page 213
E. AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED:

See Section VIII, page 236

F. PUBLIC AGENCIES HAVING JURISDICTION BY LAW OVER THE PROJECT:

City of Oakland Planning Commission
City of Oakland, Redevelopment Agency

G. PRELIMINARY DRAFT EIR PREPARED BY:

DATE COMPLETED: January 15, 1982

Oakland City Planning Department 1421 Washington Street Oakland, CA 94612

Report Supervisor: Willie Yee, Jr. Associate Planner

Environmental Impact Planning Corp. 319 Eleventh Street San Francisco, CA 94103



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California Environmental Quality Act (CEQA)

RELEASE OF REPORT FOR PUBLIC REVIEW

The City of Oakland is hereby releasing this draft Environmental Impact Report (EIR), finding it to be accurate and complete and ready for public review. Members of the public are invited to respond to the EIR. Comments should focus on the sufficiency of the EIR in discussing possible impacts on the environment, ways in which adverse effects might be minimized, and alternatives to the project in light of the EIR's purpose to provide useful and accurate information about such factors. Please address all comments to the Oakland City Planning Commission, 6th Floor, City Hall, 1421 Washington St., Oakland, California, 94612. Comments should be received no later than April 14, 1982

	X	The City Planning Commission will conduct a public hearing on the draft EIR on April 14,'82at 2:00PM in Room 115, City H
		After all comments are received, a final EIR will be prepared and considered for acceptance by the City Planning Commission on atin Room 115, City Hall.
	X	The draft EIR is attached.
		The draft EIR is available at the City Planning Department.
273-		ve any questions, please telephone the City Planning Department at sk for Willie Yee, Jr. Associate Planner
1	1	1 •

NORMAN J. LILD

Director of City Planning

DATE: February 24, 1982



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I. SUMMARY

A. PROJECT DESCRIPTION

I. Location

The proposed project would be located in downtown Oakland, on 3 blocks of a 4-block square site bounded by Broadway, 11th Street, Webster Street and 9th Street.

2. Project Characteristics

The proposed project represents the second and final phase of Trans Pacific Centre. Three separate elements comprise the project: a high-rise office tower, 2 residential towers, and a parking structure for 2,000 automobiles. The 68-story tower (1,000 feet tall) would contain 1.5 million square feet of office space and be located on Broadway and 9th Street. The 30 story residential towers would contain a total of 400 units. They would be located on Webster Street at the 9th and 11th Street corners. The parking garage would have access from Franklin and Webster Streets. Completion of the 3 elements is scheduled for December 31, 1984 with an estimated cost of \$240 million.

3. History of the Project

The entire 4-block Trans Pacific Centre site comprises the Chinatown Project Action Area designated in the Oakland Central District Urban Renewal Plan. Asian Holdings, Inc., is the developer.

B. TRAFFIC AND TRANSPORTATION

1. Setting

The proposed Trans Pacific Centre would be served by 2 freeways, the Grove-Shafter (I-980) and the Nimitz (State Route 17). In the vicinity of the project almost all surface street intersections have stable flows during the P.M. peak hour except for the Webster/7th Street intersection, which experiences delays. The downtown street system will be changed with the completion of the Grove-Shafter Freeway and the City Center

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Project. BART and AC Transit would serve the Trans Pacific Centre. Currently, on and off-street parking exists near the site.

2. Impacts

The proposed project would generate 4,690 evening hour person trips. Peak hour volumeto-capacity ratios at currently congested intersections (7th and Webster, 5th and Broadway) would be increased by 2% to 4%. All other street intersections would continue to operate at uncongested levels of service during the evening peak hour. Peak period load factors on AC Transit bus lines serving downtown Oakland would be increased by an average of 9%. On individual bus lines peak hour patronage load factors might exceed 1.25, but overall capacity would be less than demand. BART peak hour load factors would be increased by from 1% to 31%, depending upon the specific line considered. The load factors on some of the individual lines would exceed BART's service objective of 1.3 persons per seat. The proposed project would generate a demand for 3,560 parking spaces. of which 2,000 spaces would be provided on-site. Four hundred of these spaces would be reserved for project residents, leaving 1,600 spaces for employees and visitors. Parking demand would exceed supply of about 1,560 spaces.

3. Mitigation

Mitigation measures in the project design include off-street truck loading docks, gradeseparated pedestrian circulation over Franklin Street, and a passenger loading zone on the east side of Broadway. Other recommended mitigation measures include street modifications to Webster Street at 7th Street, Madison Street at 12th and 10th Streets. Jackson Street between 11th and 7th Streets and Broadway at 5th Street. In addition, a transportation coordinator should be designated for the project to coordinate vanpool/carpool activities and oversee a staggered and/or flexible work hours program. Multiple-ride BART and AC Transit tickets should be sold on-site and bus stops adjacent to the site should be upgraded.

C. AIR QUALTY

1. Setting

Oakland, located on the east shore of San Francisco Bay, is exposed to marine air from the west. The air pollution potential of the Oakland area is moderate due to high average winds.

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2. <u>Impacts</u>4 Trucks and

Trucks and equipment associated with construction activity would generate pollutants. Earth-moving and grading would produce dust and suspended particulates. When complete, the building would emit exhaust gases at rooftop level, though the impact would be negligible. Emissions from automobile traffic generated by the project would be the major source of pollution, but projected carbon monoxide levels would not be sufficient to violate standards.

3. Mitigation

Watering to control dust on-site during construction would be done by the project sponsor. Measures aimed toward a reduction of traffic volumes and congestion would also reduce air quality impacts.

D. NOISE

I. Setting

In the vicinity of the proposed project, the major source of noise is street traffic. Jet aircraft are occasionally heard as well as train whistles from the direction of Highway 17.

2. Impacts

Increases in traffic as a result of the proposed project would raise noise levels along nearby streets. Along Franklin Street the increase in traffic noise would be about 3 dB, which would be just noticeable. The noise exposure of the housing towers would be higher than the acceptable limits. During construction certain activities such as pile-driving and use of impact wrenches would produce high noise levels.

3. Mitigation

 In addition to mechanical ventilation, acoustically rated glass could be installed in residential units that are exposed to high street noise. By predrilling holes for pile-driving the noise level would be reduced. All equipment should be well maintained and muffled or shrouded to the greatest extent possible.

E. LAND USE AND RELATIONSHIP TO PLANS

I. Setting

The blocks bordering the project site contain a mixture of high-rise/low-rise, retail/office/residential land uses. The northwestern block of the site is being utilitzed for Phase I of the TransPacific Centre, now under construction. The southeastern and southwestern blocks have been cleared and the northeastern block is still occupied by a series of 2-story brick buildings on the Webster Street frontage. Goals contained in the City's Comprehensive Plan which relate to this project generally deal with improving Oakland's physical environment and economic base, and to reducing unemployment. Development of a high-intensity business core is encouraged in the project area. City planning policies that relate to this project include job development, economic revitalization and neighborhood preservation. Development of a high-intensity business core is encouraged in the project area, and the proposed use is an approved land use for the Chinatown action area of the Oakland Downtown Urban Renewal Plan.

2. Impacts

The proposed project would comply with the zoning requirements of the C-51 and C-55 districts. Plans for the Broadway frontage, within the S-8 district, are not yet formalized, so compliance is not certain. The project would conform to the general objectives of the Comprehensive Plan and would also support the policy goals of encouraging economic revitalization, job development. Four Hundred new housing units would be created. In combination with other development the proposed project could cause local rents and land values to increase as a result of more intense downtown office activity.

F. VISUAL QUALITY AND URBAN DESIGN

I. <u>Setting</u>

The proposed project site is surrounded by 5 distinct districts: the Chinatown business and residential area; a mixed commercial support district; the downtown business and government core; Victorian Row; and the City Center and Convention Center, now under construction. Building heights range from the 2-to-3-story Chinatown structures to the 24-story Clorox Building. Building styles vary from late 19th-century Victorian to modern concrete and glass.

2. Impacts

The 68-story Trans Pacific office tower would become a regional landmark for Oakland, 3 times as tall as the Clorox Building or the Oakland Tribune tower. It would be visible from Richmond, San Francisco, the Oakland Hills, the San Mateo Bridge and most points between. The two 30-story housing towers of the proposed project would be more in scale with current downtown development. When viewed at a distance of less than I mile, more architectural details would be noticeable, including the tower's diagonal bracing, octagonal shape and silver grey cladding. At the pedestrian level, the combined effects of increased vehicular traffic, the continuous garage walls and the office tower's enclosed service area may adversely affect Franklin Street.

3. Mitigation

A shorter tower of 45 stories, such as proposed in Alternative 2, would be less prominent in the downtown skyline. Nonreflective glass and steel should be used for the office tower. A consistent design language of plantings, street furniture, paving, lighting and signs should be used to visually unite the project and relate it to the surrounding landscape. Stepped facades, ground-floor shops, landscaped plaza areas and amenities for both residents, employees, visitors and the public would be incorporated into the project design.

G. SHADE AND SHADOW

I. Setting

Because of the relatively low development in the area, pedestrian areas are generally sunny. The Convention Center/Hotel complex and the 15-story City Center Towers cast shadows near and on the project site, respectively, during the P.M. hours.

2. Impacts

The 68-story office tower would cast the most significant shadow; however, the narrowness of it would reduce the time that a given location would be shaded. The residential towers, particularly the northern tower, would cause varying degrees of shading at most times of the day during all seasons. The plaza at the base of the office tower would be shaded by the 15-story City Center Towers.

3. Mitigation

The shading effect of the northern residential tower could be reduced by relocation at the southwest corner of its block, so that most of its shadow would fall on the parking garage rooftop.

H. MICROCLIMATE

I. Setting

The site is south of the downtown high-rise area and is exposed to prevailing winds off the Bay. The prevailing wind direction is westerly and average wind speed is 9.5 mph.

2. Impacts

In general, the project increased winds south of the site and decreased winds to the east. A wind tunnel test showed that the safety criterion was exceeded within the plaza area near the south and north sides of the office tower where winds were up to double the ambient wind speed.

3. Mitigation

A 2-to-5-story canopy built out from the tower would cause stronger winds to occur atop the base rather than at ground level. Pedestrian shelters and vendor kiosks would afford local protection from the wind. Street trees and other vegetation to serve as windbreaks would be advised throughout the project and along neighboring streets. The project design has incorporated a line of street trees along 9th Street which would significantly reduce wind impacts along the 9th Street sidewalk. Architectural treatments such as trelisses or windscreens used in conjunction with trees could similarly reduce wind impacts on the adjacent plaza areas.

I. COMMUNITY SERVICES

I. Setting

EBMUD would supply water to the project from the Central Pressure Zone and remove wastewater as well. The Oakland Scavenger Company would remove solid waste from the project to the Transfer Station in San Leandro and thence to the landfill site at Altamont. Natural gas and electricity would be supplied by Pacific Gas and Electric Company. The site is located in District I for police service. This particular area has a high rate for crimes such as armed robbery and auto burglary. The closest fire station to the site is located at 822 Alice Street between 8th and 9th Streets. The Oakland Unified School District would serve school-age residents of the development.

2. Impacts

The total project would consume an average of 247,500 gallons of water per day. EBMUD would be capable of supplying water as well as removing wastewater. Total generated solid waste (office and residential) would be about 2438 tons annually, which would be handled by the Oakland Scavenger Company. The proposed project would affect the types and frequencies of crimes which occur in the project area. For fire suppression, hydrant tests performed adjacent to the site should be sufficient power.

3. Mitigation

Paper recycling would be encouraged among office tenants. This, along with the use of a trash compactor, would significantly reduce the trash load. The Oakland Police Department has recommended specific security measures to be incorporated into the project design which they feel will minimize the potential for criminal activity on and around the project site. The project will be fully sprinklered and smoke detectors will be installed according to fire code.

J. ENERGY

I. Setting

Energy is currently consumed on-site by a residential hotel and several small businesses. PG&E would provide energy to the site.

2. Impacts

The proposed office tower's estimated monthly electrical consumption would be 1,700,000 kilowatt hours (kwh). Estimated daily natural gas consumption would be 43 BTU per square foot of interior floor areas. The annual energy consumption of the 2 residential structures would be around 5000 kwh of electricity and 800 therms of natural gas per residential unit.

3. Mitigation

The proposed office tower would include energy-efficient lighting, floor-by-floor tenant metering, variable air volume air conditioning systems and an outside air/return air economizer cycle, features designed to save energy. Energy conservation measures would also be incorporated into the residential structures.

K. GEOLOGY, HYDROLOGY AND SEISMICITY

I. Setting

The project site is generally level and is underlain by about 1000 feet of sediments resting on bedrock. Fill material, forming the top layer, ranges in depth from a few feet to 16.5 feet. A 1978 geotechnical investigation of the site encountered groundwater at depths of 20 to 30 feet below street level. Two main BART tunnels are located under the project site. Although there are no known active faults traversing the site, it is in a seismically active region.

2. Impacts

During construction, excavation would be complicated by the location the BART tunnels. In general, excavation and building could cause lateral deformation, subsidence and differential settlement. Surrounding building foundations and tunnels could experience distress due to changes in the stress geometry. During an earthquake along one of the active faults in the vicnity of the project, the site could experience strong groundshaking; liquefaction would not be expected.

3. Mitigation

Additional geotechnical exploration is recommended because design changes have occurred since the 1978 investigation. Vibrations caused by pile-driving should be monitored and analyzed to avoid damage to tunnels. Construction should take place in the summer, when the groundwater table is lowest. Construction guidelines stipulated by BART to eliminate impacts on tunnels should be adhered to.

L. GROWTH INDUCING IMPACTS

Six thousand new jobs would be created on-site and the housing stock would be increased by 400 units. In combination with other nearby developments, the Trans Pacific Centre would increase the cumulative growth of business activity and the daytime population in the downtown CBD.

M. ALTERNATIVES TO THE PROPOSED PROJECT

No-Project Alternative. This would entail no change to the project site as it now exists.

- 2. Alternative 1: Office Space Element in 2 Towers. A 20-story tower would be built over the Phase I 6-story structure and a 45-story tower would be erected on the site immediately south. Both buildings would be devoted to office space and 2 separate towers would contain 400 housing units as proposed. Transportation impacts would be similar to those of the proposed project, but visual quality and urban design considerations would be changed, i.e., less of a regional landmark would be provided.
- 3. Alternative 2: Office Space Element in 3 Towers. A 20-story addition to the Phase I building and two 25-story towers on the block to the south would provide office space, rather than a single tower as proposed. The housing element would be contained in 2 structures, as proposed. Transportation impacts would be similar to those of the proposed project. This alternative would produce 5 towers of almost identical height, contributing to a more unified design but having the least impact in terms of a visual landmark. It would provide the least amount of street-level public open space and also affect Franklin Street by adding a canyon-like wall of buildings along its west side.
- 4. Alternative 3: Housing Element in a Single Structure. The 400 housing units would be located in a slab-like structure stretching 450 feet along Webster Street and rising in 6 terraces from a 30-foot height along 9th Street to 300 feet along 11th Street. The office tower would remain the same as proposed. Transportation impacts would be similar to those of the proposed project. Areas of visual quality and urban design would differ from the project as proposed. The Webster Street facade of this housing alternative would appear as a massive slab, and the form of the residential block would contrast sharply to the office tower.
- 5. Alternative 4: 600 Units of Housing. The housing element of the proposed project would include 600 units rather than 400 units. The physical shell of the project would remain the same for all structures, but each housing tower would contain 300 smaller housing units rather than the 200 in the proposed project. The units would be predominantly studios and 1-bedroom apartments rather than the 2-bedroom units which would predominate in the proposed project.

- 6. Alternative 5: Lower Housing Density in Lower Towers. In this alternative the housing provided would be reduced from the proposed 400 units to as few as 200 units, to be housed in structures similar to those of the proposed project but shorter. At the low end of the reduced density range the towers would rise 15 stories above their platform rather than 30 and the height would be 176 feet above the sidewalk grade rather than 326 feet.
- 7. Alternative 6: Building Program Incorporating Proposed Mitigation Measures. This alternative involves a building program incorporating mitigation measures proposed elsewhere in this report. The proposed office tower would be reduced from 68 to 45 stories, and the housing would be contained in a single 24-story structure running along the southern edge of the 9th Street block between Webster and Franklin Streets.

II. INTRODUCTION

This report is a focused Environmental Impact Report (EIR) prepared in compliance with the California Environmental Quality Act of 1970 (CEQA). The report has been focused, pursuant to Section 15080 of CEQA, on those items identified as potentially significant in the City of Oakland's Initial Study of the proposed project (see Appendix D).

The proposed project is Phase II of the Trans Pacific Centre, which is designated in Oakland's Central District Urban Renewal Plan as the Chinatown Project Action Area. The project sponsor is requesting approval for the development of a 1.5-million-square-foot office tower, 68 stories in height, 400 residential units and a 2000-car parking garage. This EIR is intended to enable the City of Oakland and local citizens to evaluate the project's effect on the environment, to examine and institute methods of mitigating adverse impacts should the project be approved, and to consider alternatives to the proposed project.

III. PROJECT DESCRIPTION

A. LOCATION

The site of the proposed project comprises a 4-block square area in downtown Oakland bounded by Broadway on the west, 11th Street on the north, Webster Street on the east and 9th Street on the south (see Figures 1 and 2).

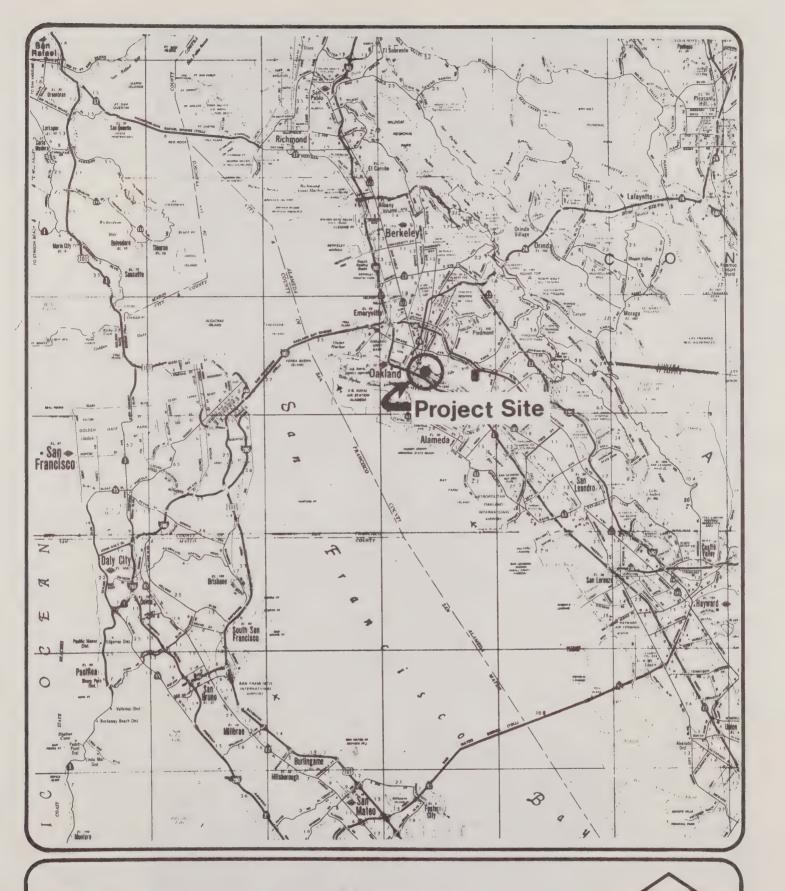
Regional access to the site is provided by the Grove Shafter Freeway, the Nimitz Freeway and the 12th Street BART station. Direct vehicular access to the site would be provided from Franklin Street and Webster Street.

B. PROJECT CHARACTERISTICS

The project owner/developer, Asian Holdings, Inc., is currently constructing Phase I of Trans Pacific Centre, a 6-story office/retail building with 2 underground levels of parking on the northwest block. Phase I is scheduled for completion in October 1982. The remaining 3 square blocks would constitute the second and final phase of Trans Pacific Centre, and will be the focus of this environmental study (see Figure 3 and 4).

The project contains 3 distinct elements: a highrise office tower, 2 residential towers and a parking structure (see Figure 5). The 68-story octagonal office tower at Broadway and 9th Streets would rise to a height of 1000 feet and would be recognizable as a landmark in the region. This tower, rising directly from a street-level plaza, would provide approximately 1.5 million gross square feet of office space (see Figures 6, 7 8, 9, 10 and 11).

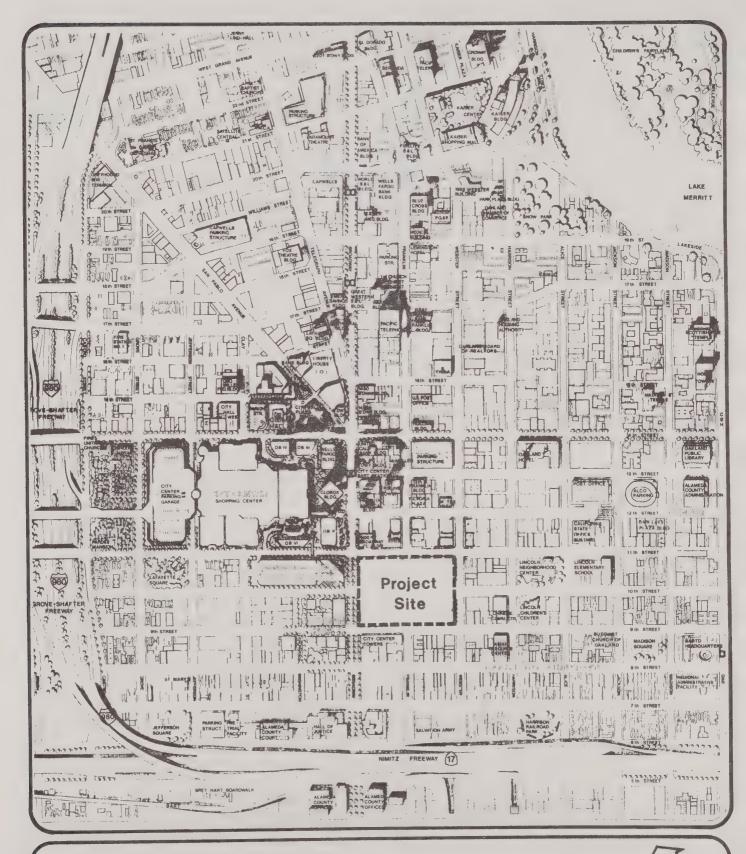
The residential component consists of two 30-story residential towers located on Webster Street at the 9th and 11th Street corners. The twin towers would collectively contain approximately 400 dwelling units. The 9th Street tower would include community-oriented space at present designated a Chinese Cultural Center (see Figures 12, 13 and 14).



Regional Location Map

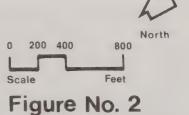
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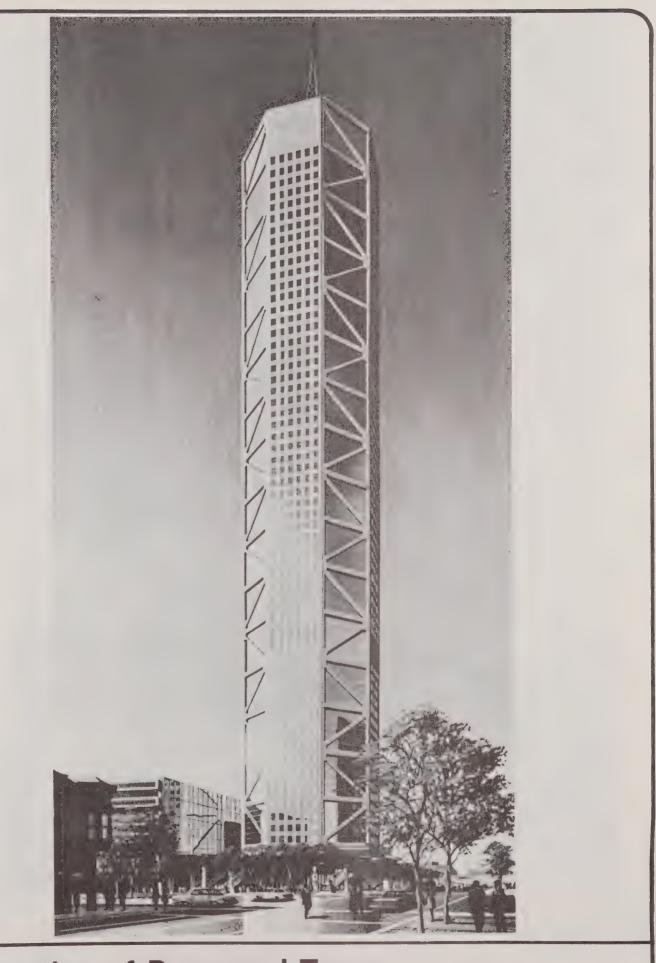




Site Location Map

Prepared by the SWA Group, Landscape Architects for the Oakland Redevelopment Agency, 1981. Used with permission of the Oakland Redevelopment Agency.





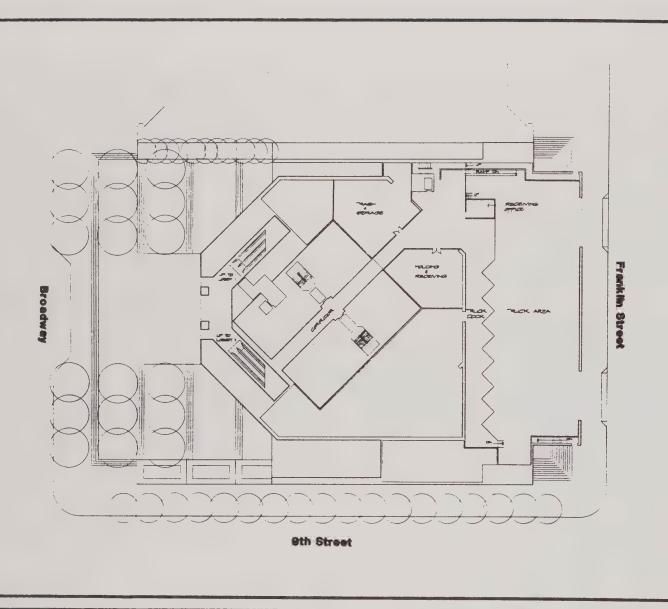
Perspective of Proposed Tower

SOURCE: Skidmore, Owings & Merrill

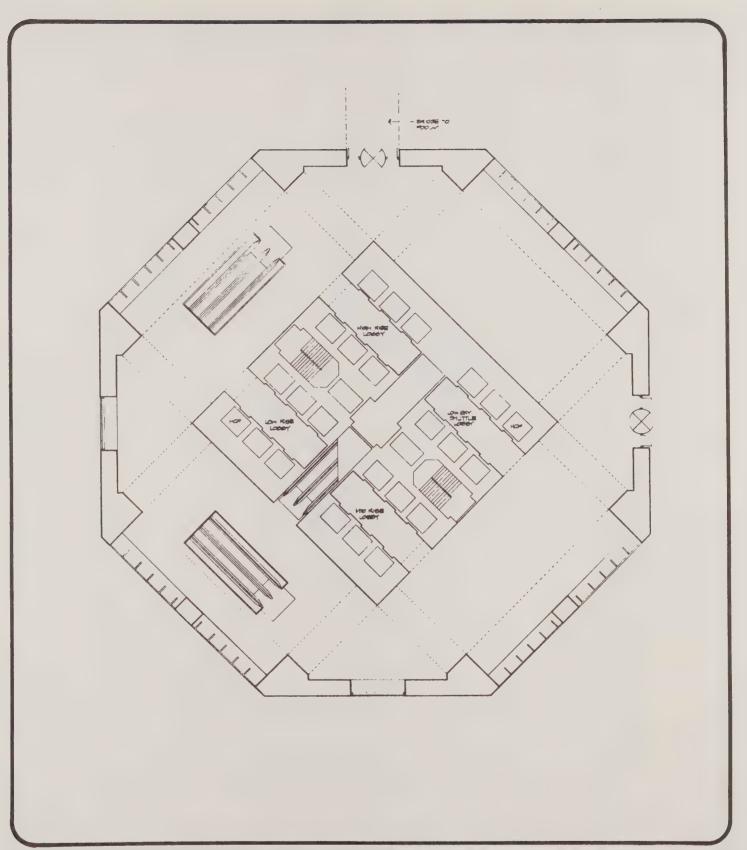


Proposed Project

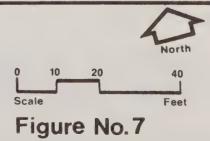
SOURCE: EIP Corp.

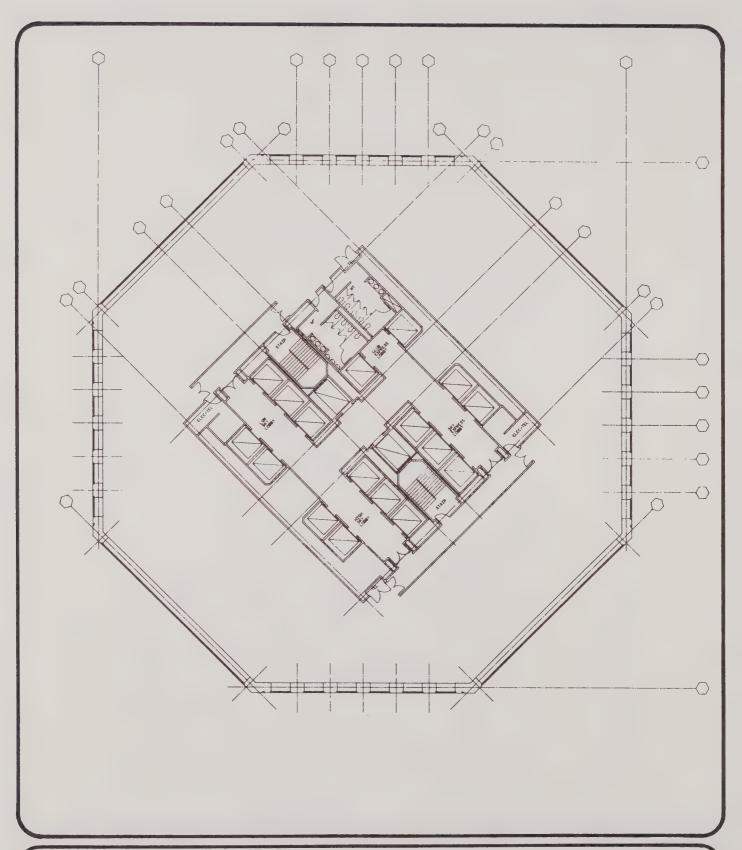


Office Tower Ground Level Plan Office Tower Ground Level Plan Feet

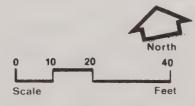


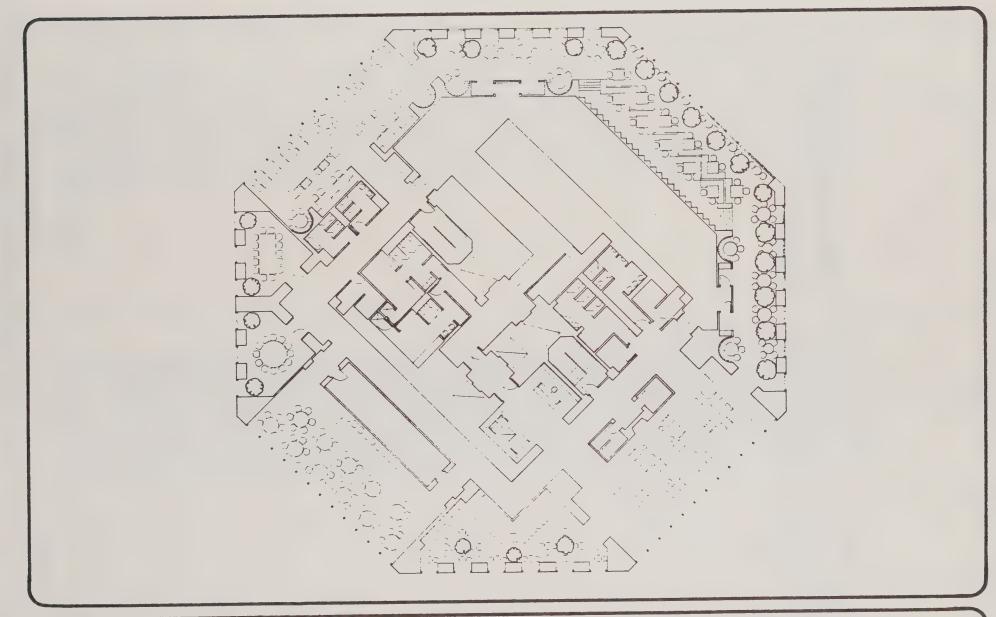
Office Tower Lobby Level One Plan

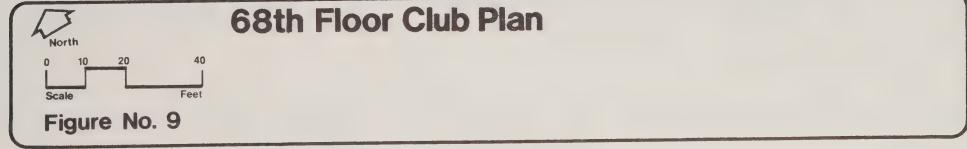


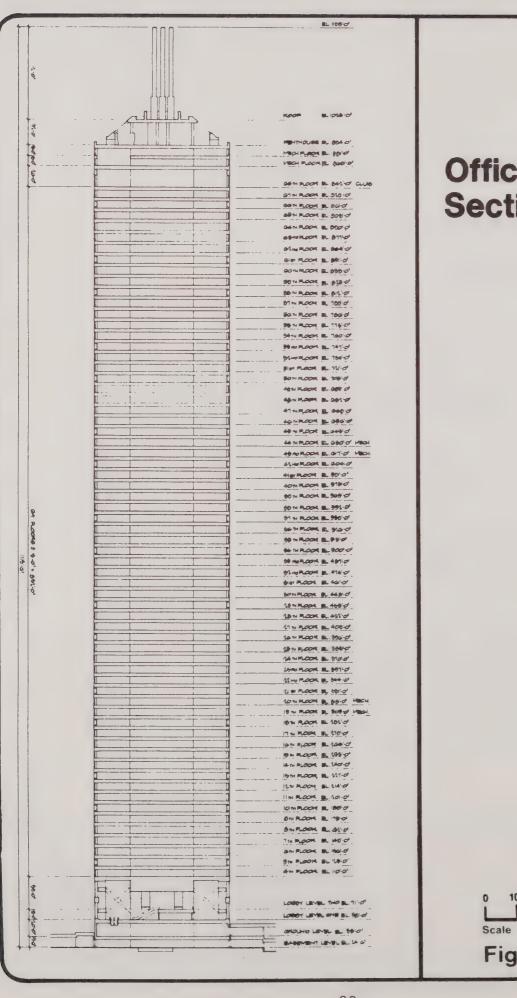


Typical Office Tower Floor Plan (Floor 46)

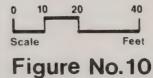


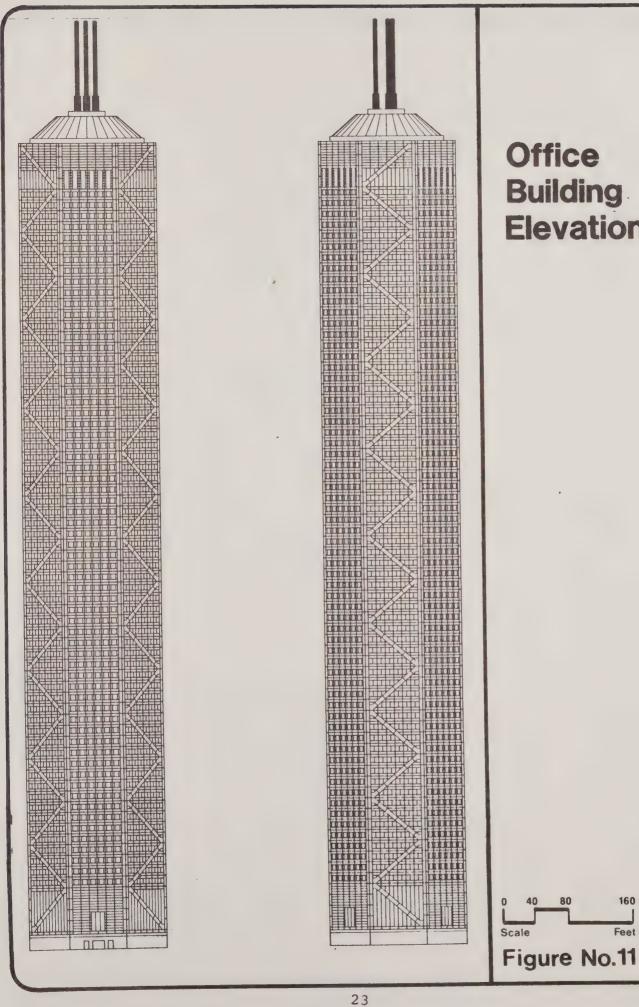




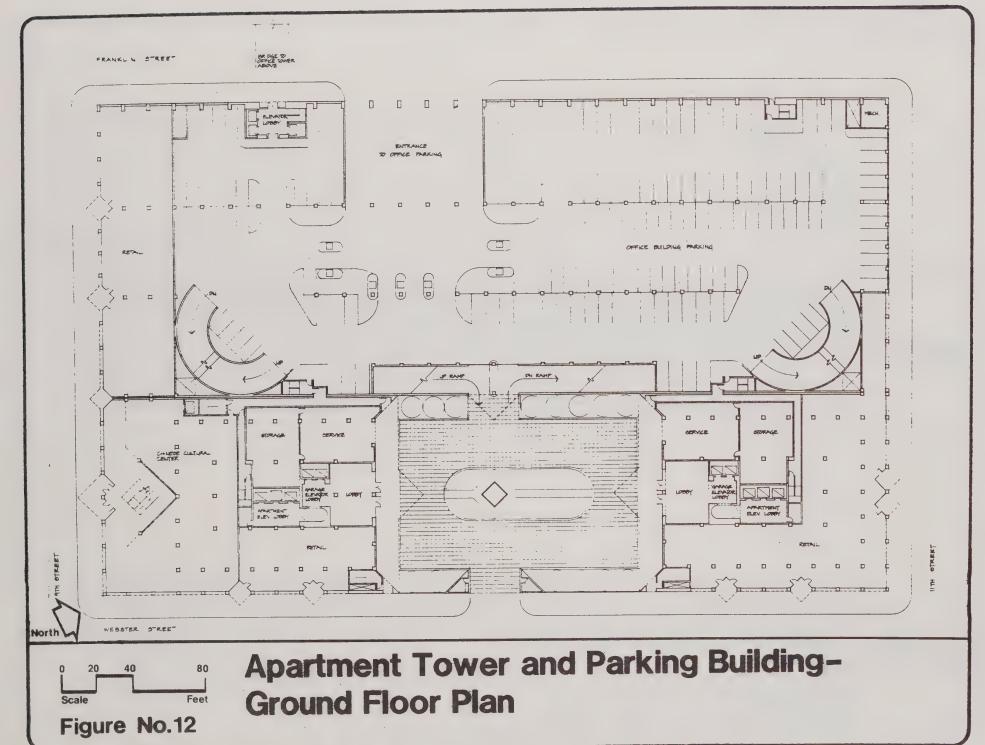


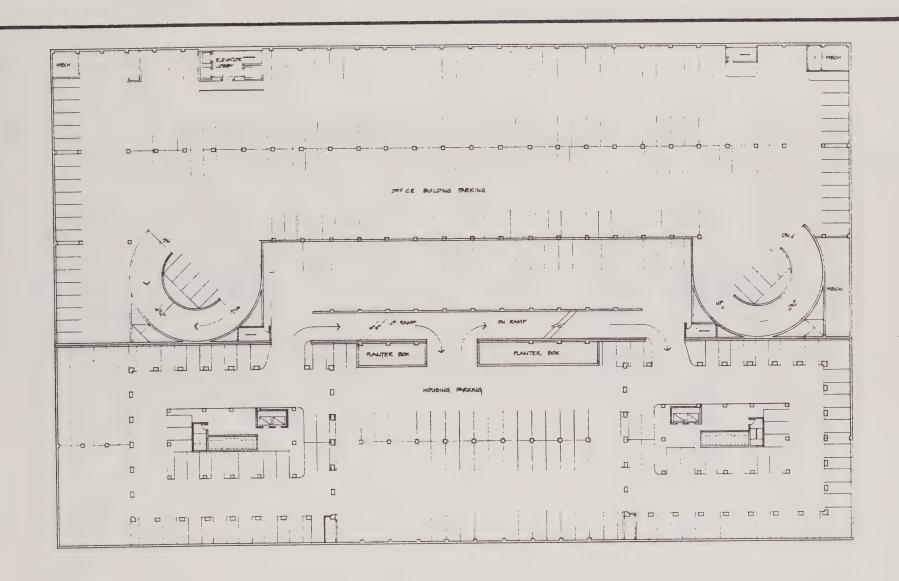
Office Building Section



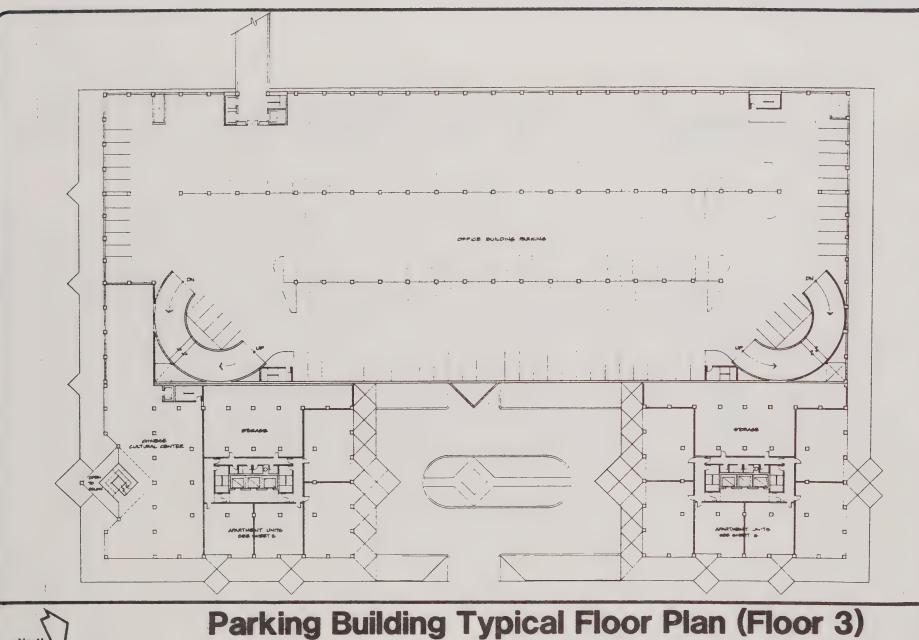


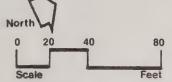
Building Elevations





Park Building Basement Level Plan B1





Ground-level retail and commercial facilities would be provided along 9th Street between Franklin and Webster Streets. These would serve both tenants and the community at large. A pedestrian bridge across Franklin Street would link the office tower plaza with the parking garage and retail facilities (Figure 15).

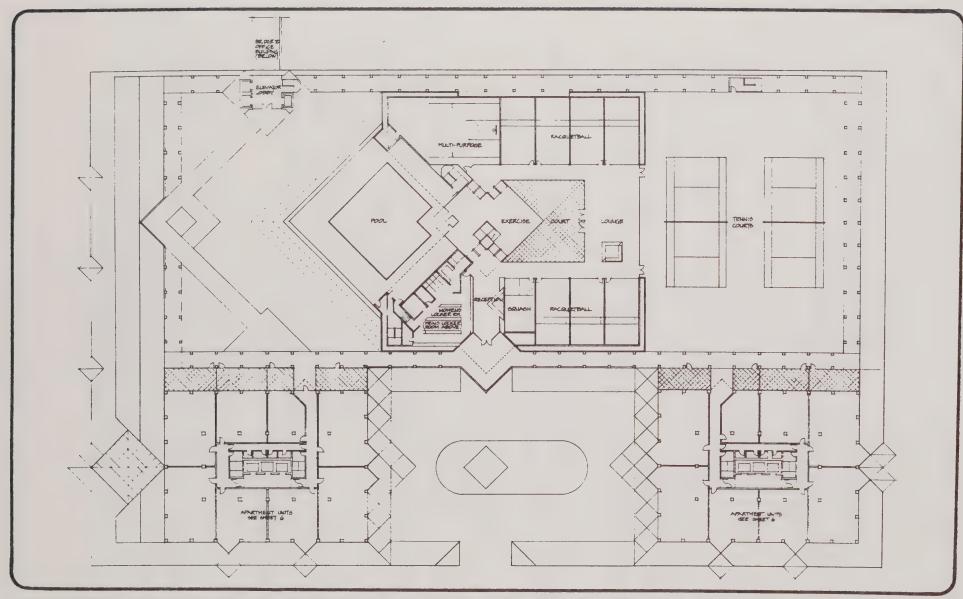
A parking garage for 2000 automobiles would be located along the Franklin Street frontage of the 2 housing blocks. This would provide 5 levels of parking above grade and 2 levels below. Access to the garage for office and retail users would be from Franklin Street; a separate residential access restricted to tenants would be provided at the terminus of 10th Street between the residential towers. (It is proposed that 10th Street be vacated between Broadway and Webster.) (See Figures 16, 17, 18, 19, 20, 21 and 22).

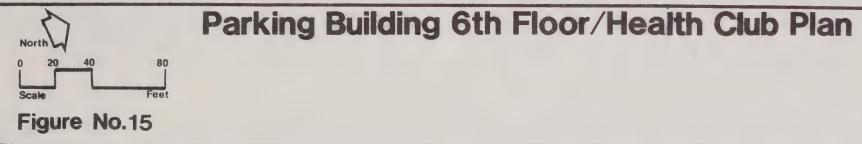
These 3 elements are proposed to be developed in a single phase with completion scheduled for December 31, 1984. The residential towers may be phased. The total estimated cost of Phase II development is \$240 million.

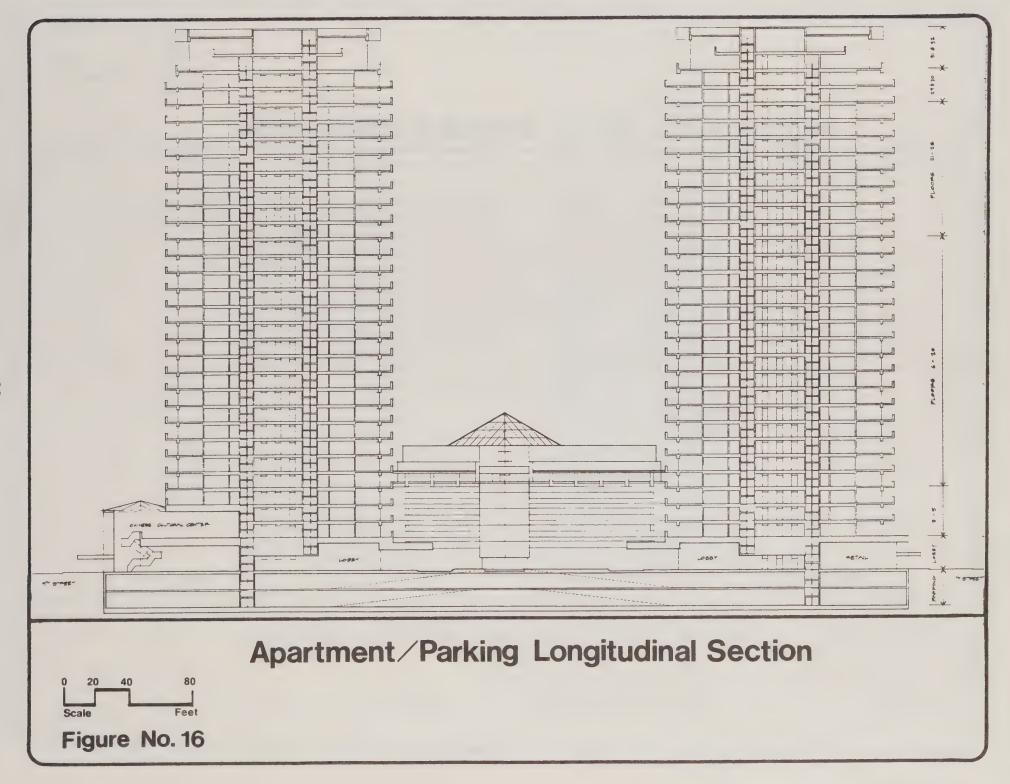
C. HISTORY OF THE PROJECT

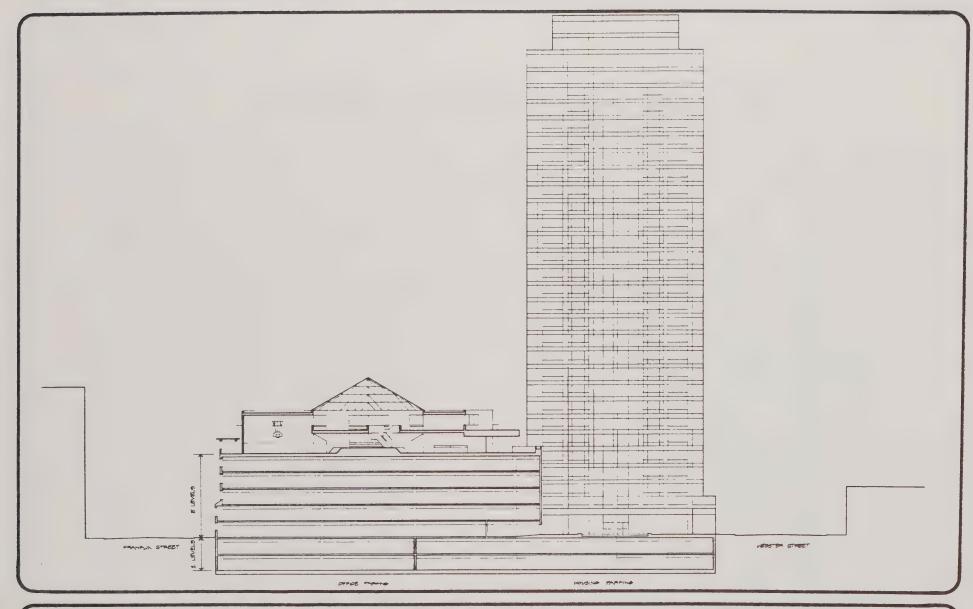
The entire 4-block Trans Pacific Centre site comprises the Chinatown Project Action Area designated in the Oakland Central District Urban Renewal Plan. Development rights to the Chinatown Project Action Area originally were owned by another developer, under the project name of Hong Kong/USA, which started construction of Phase I. This developer relinquished its development rights to the City of Oakland and the Redevelopment Agency. Asian Holdings, Inc., then acquired development rights to the project area from the City and the Redevelopment Agency by entering into a Disposition and Development Agreement with them on October 31, 1980.

The Disposition and Development Agreement required Asian Holdings to complete construction of Phase I (currently scheduled for October 1982) and to submit a Conceptual Plan for development of Phase II of the Trans Pacific Centre to the City and the Redevelopment Agency. Asian Holdings submitted its Conceptual Plan for Phase II on December 15, 1981, at which time the City and the Agency by resolution approved a Memorandum of Understanding which approved the Conceptual Plan in principle.

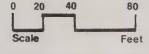


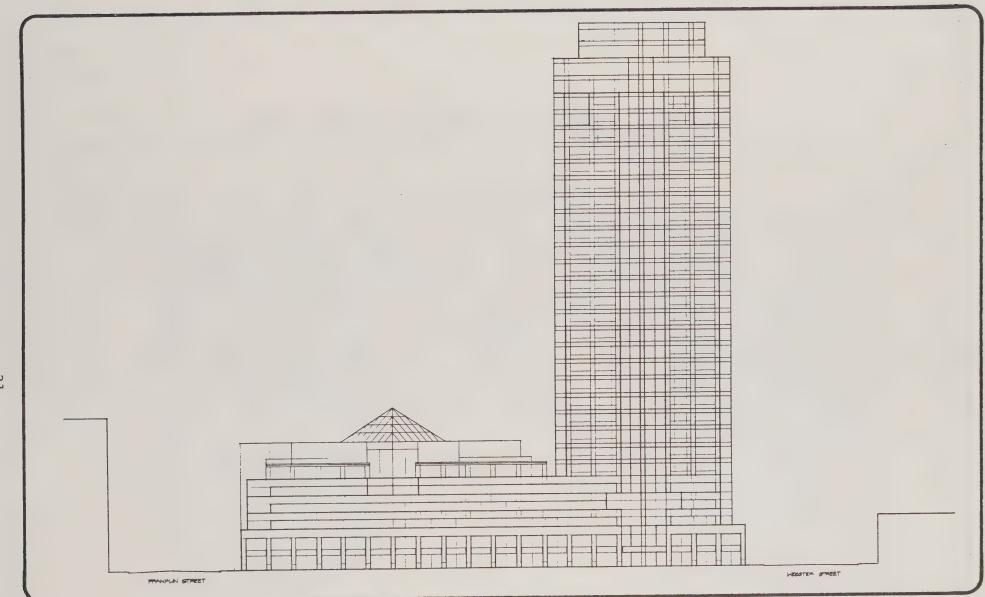




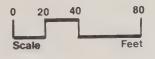


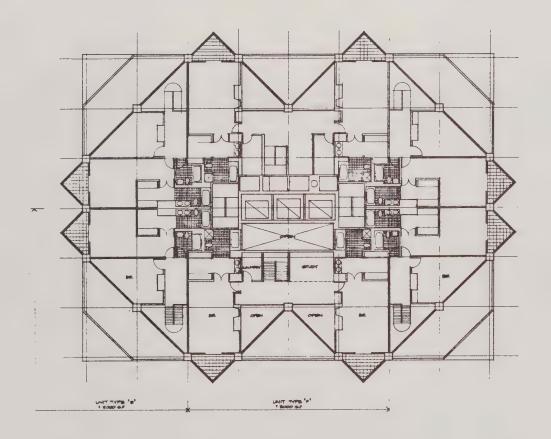
Apartment/Parking Transverse Section

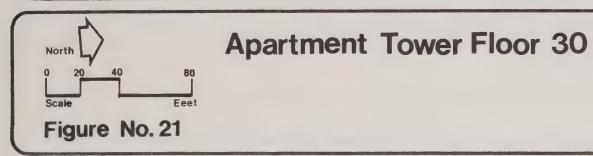


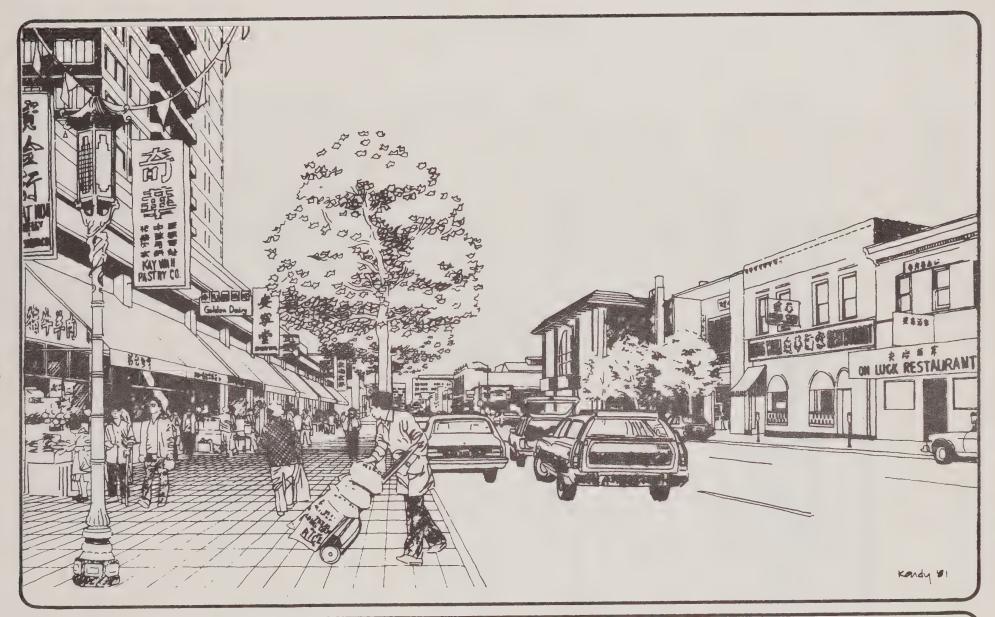


Apartment/Parking South Elevation









Artists Conception of 9th St. Esplanade View East from Franklin Street

D. CITY REVIEW OF THE PROJECT

The City's Zoning Regulations require that a Planned Unit Development (PUD) permit be obtained for all integrated commercial developments on site with 60,000 square feet or more of land area. Approval authority for a PUD permit is vested in the City Planning Commission. Since the proposed development is a redevelopment project, it is also under the jurisdiction and subject to the approval of the Redevelopment Agency.

The proposed project is subject to an approval process as follows: First, the City, the Redevelopment Agency and Asian Holdings, Inc. must execute an amendment to the Disposition and Development Agreement transferring the project site from the Redevelopment Agency to Asian Holdings, Inc. The amended DDA will also specify conditions on Asian Holdings' development rights. Second, the Preliminary PUD and Final PUD must be approved by the City Planning Commission. Finally, the Final Development Plan must be approved by the Redevelopment Agency.

IV. ENVIRONMENTAL SETTING IMPACTS AND MITIGATION

A. TRAFFIC AND TRANSPORTATION

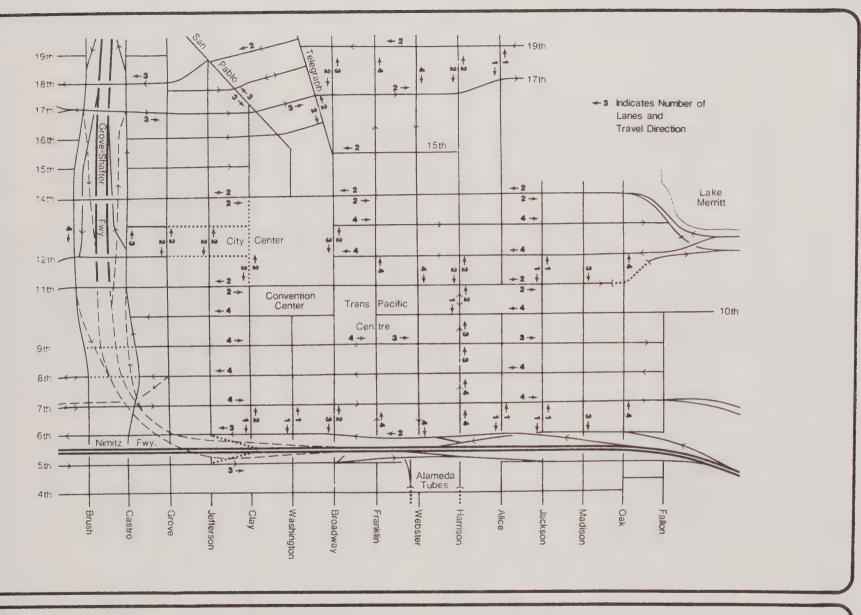
- I. Setting
- a. Traffic

The proposed site for the Trans Pacific Centre is served by two freeways, the Grove-Shafter (I-980) and the Nimitz (SR I7) freeways (see Figure 23).

The Nimitz Freeway is the major north-south route between Richmond, Oakland, and San Jose. Peak hour traffic on this eight lane freeway (four lanes in each direction) amounts to 14,800 vehicles per hour. Traffic on this freeway typically flows well through Downtown Oakland; however, during the peak periods, congestion occurs on approaches to the Bay Bridge/I-580 interchange and south of State Route 238.

The Grove-Shafter Freeway, (State Route 24/I-980) carries primarily east-west traffic between Downtown Oakland, the Oakland Hills, and Central Contra Costa County. The freeway is currently open only on the portion east of 12th Street. The remaining portion between the Nimitz Freeway and 12th Street should be completed by 1985. The Grove-Shafter Freeway currently carries about 4,200 vehicles per hour (near the 27th Street overcrossing) during the peak hour. Peak hour volumes on the Grove-Shafter Freeway east of the I-580 interchange are roughly double those west of this interchange.

Caltrans, 1980 Traffic Volumes on the California State Highway System, May 1981.





Street Network

Figure No.23

SOURCE: DKS Associates

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During the morning commute hours congestion on the westbound approaches to the Bay Bridge will extend back to the Grove-Shafter Freeway causing vehicles to gueue on the San Francisco bound off-ramps. During the afternoon commute hours congestion at the Caldecott Tunnels causes eastbound traffic to back up for a couple of miles.

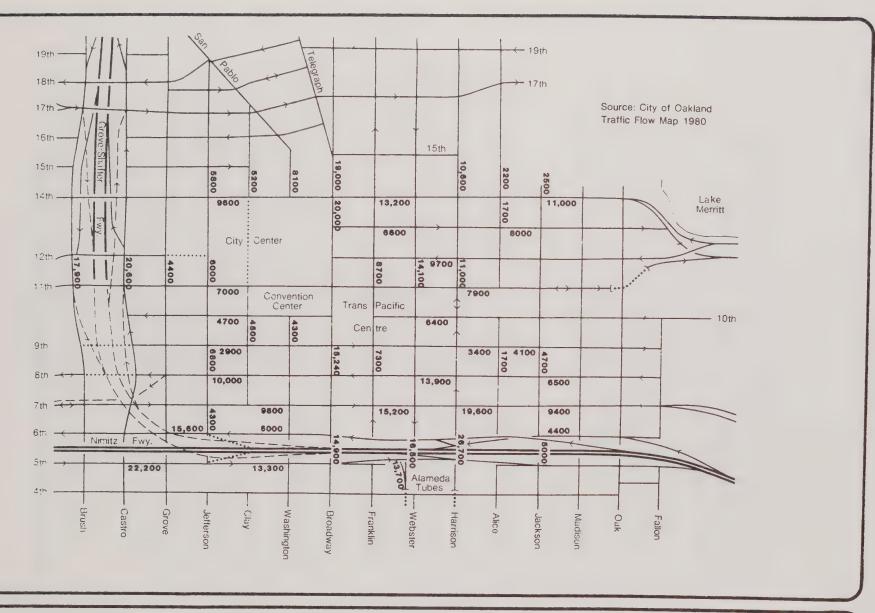
The major east-west through streets in the vicinity of the Trans Pacific Centre site are 7th Street, 8th Street, 11th Street, and 14th Street (see Figure 23). Major north-south streets are Broadway, Franklin, Webster, and Harrison Streets. Webster and Harrison Streets connect directly to the City of Alameda. Figure 24 gives the average daily traffic flows on these streets.

Almost all street intersections in the vicinity operate at level-of-service "A" or "B" during the PM peak hour. The intersection of Castro and 12th Street operates at levelof-service "C". The intersection at Webster and 7th Street operates at level-of-service "D" during the PM peak hour due to the reduction in southbound lanes (from 3 to 2 lanes to enter the Alameda Tube), heavy pedestrian flows, heavy left turns, and double parking at this intersection. At particularly heavy flow periods traffic on Webster may queue for several blocks. (See Table 1 for definitions of levels-of-service).

The planned extension of the Grove-Shafter Freeway to the Nimitz Freeway and the completion of the City Center project would cause several changes in the downtown street system which are illustrated in Figure 27. Portions of Clay Street, 12th Street, 9th Street and 8th Street would be closed. Eighth Street will be realigned west of Grove Street. Eleventh and 14th Streets would be converted to a one-way couplet (11th Street eastbound, 14th Street westbound). These future changes in the CBD circulation system have been included in the subsequent impact analysis for the Trans Pacific Centre. However, these proposals are still fluid and might change in the future.

Transit ь.

The project site is served by two public transit systems: the Alameda-Contra Costa Transit (AC Transit) District and the Bay Area Rapid Transit (BART) District.





Average Daily Traffic Volumes

Figure No. 24

SOURCE: DKS Associates

AC Transit. The site is well served by AC Transit bus service, with over a dozen lines being located within a few blocks. Bus routes near the site are shown in Figure 25. The site fronts on Broadway which is the primary bus route within the Oakland Central District, carrying some II lines past the site. Included among these is the Oakland Downtown Shuttle which circulates around the Central District. Bus stops for these lines are located on both sides of Broadway directly opposite the site. A number of other north-south lines operate northbound on Franklin Street. East-west bus service is distributed over all streets between 7th and 14th Streets.

Analysis of peak period load factors at major access points to the CBD indicates that, on the whole, capacity for additional bus ridership exists during the PM peak period. As shown on Table 2, PM peak period load factors at the cordon points vary from 0.28 to 0.83. On individual lines, load factors of up to 1.02 were observed. The average peak period load factor for all lines crossing the CBD cordon is 0.68. These factors are well within AC Transit's service objective of keeping load factors to under 1.25 during the peak one-half hour period. However, since the cordon load factors are averaged over a two-hour period (4:00-6:00 PM), and are not necessarily at peak passenger load points of the route, it is possible that the 1.25 service objective could be exceeded on some lines or at some locations during a particular one-half hour period.

<u>BART</u>. The BART system is accessible to the site via the Oakland City Center (12th Street) Station. The closest station entrance is located on Broadway at 11th Street, a half block from the proposed building entrance.

BART currently runs three of its four lines through the City Center Station: Concord/Daly City, Richmond/Daly City, and Richmond/Fremont. Consequently, all stations on the system can be reached without transfer.

Load factor is the ratio of passengers to available seats.

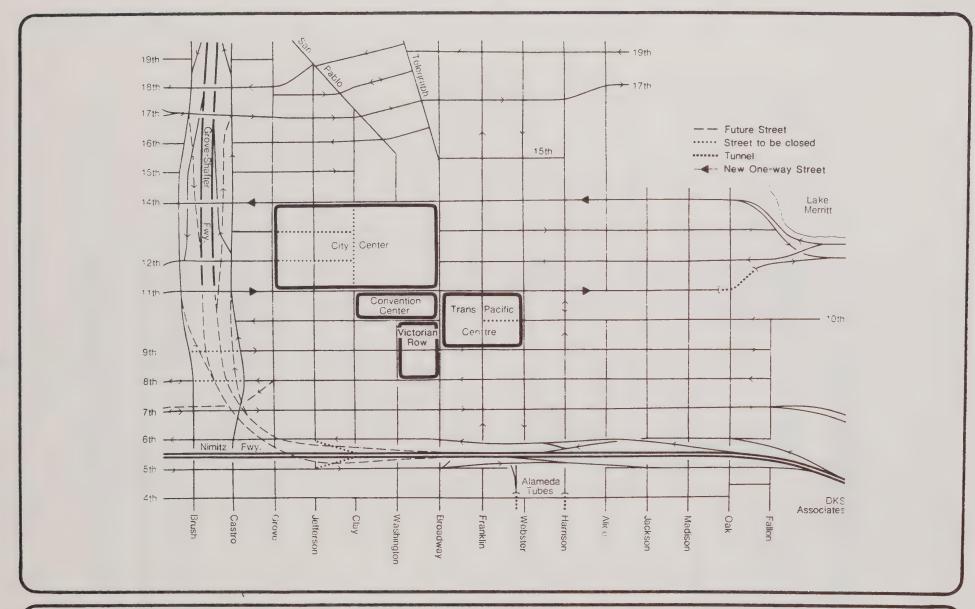
Table 2
EXISTING AC TRANSIT PATRONAGE (1981)
Outbound Direction from Oakland CBD, 4:00-6:00 PM

	Cordon Station	Routes	Passengers	Seated Capacity	Load ² Factor
1.	14th Street/Grove	12, 14	240	850	0.28
2.	San Pablo/West Grand	72	500	750	0.66
3.	27th/Telegraph	31,33,40,43	940	1,850	0.51
4.	27th/Broadway	42,51,59,76	960	1,650	0.58
5.	Grand/Harrison	11,12,18,34	1,660	2,050	0.81
6.	14th Street/Oak	14,15,18,38,40, 43,82,83	3,580	4,600	0.78
7.	5th Street/Oak	32,33,36	560	950	0.59
8.	6th Street/Webster	42,51,58	830	1,000	0.83
	TOTAL		9,270	13,700	0.68

SOURCES: AC Transit Schedule Department
DKS Associates Field Surveys, December 8, 1981

Passengers and capacity are for full two hour period 4:00 to 6:00 PM.

² Load factor equals passengers divided by seated capacity.





Future Street Network in the Vicinity of Trans Pacific Centre

PM peak hour load factors at key CBD access points range from 0.84 to 1.39 on the various BART lines (see Table 3). BART's service objective is to keep load factors below 1.30. This service objective is presently exceeded on the line from Daly City to Concord leaving Oakland (i.e., MacArthur Station).

C. Parking

There are a total of about 3,700 public off-street parking spaces within three blocks (roughly a quarter mile) of Trans Pacific Centre. During the peak mid-morning and mid-afternoon parking periods an average of 81 percent of these public off-street spaces are occupied (see Figure 26).

Excluding existing on-site parking, if off-street parking utilization can be increased, then approximately 310 vacant spaces would be available near Trans Pacific Centre for accommodating the parking demand generated by new developments in the area (see Appendix C).

On-street parking in the vicinity of the Trans Pacific Centre is roughly 84 percent occupied during the peak parking periods of the day. All day parking spaces in the area tend to be the most fully utilized. Over 99 percent of these on-street spaces are occupied at any one time during the day. Two-hour parking spaces are 88 percent occupied (see Table 4).

d. Pedestrian

The sidewalks bordering Phase I of Trans Pacific Centre (currently under construction) on Eleventh, Broadway and Franklin Streets are currently closed due to construction. The remaining sidewalks bordering the proposed Trans Pacific Centre are free flowing during

 Source:

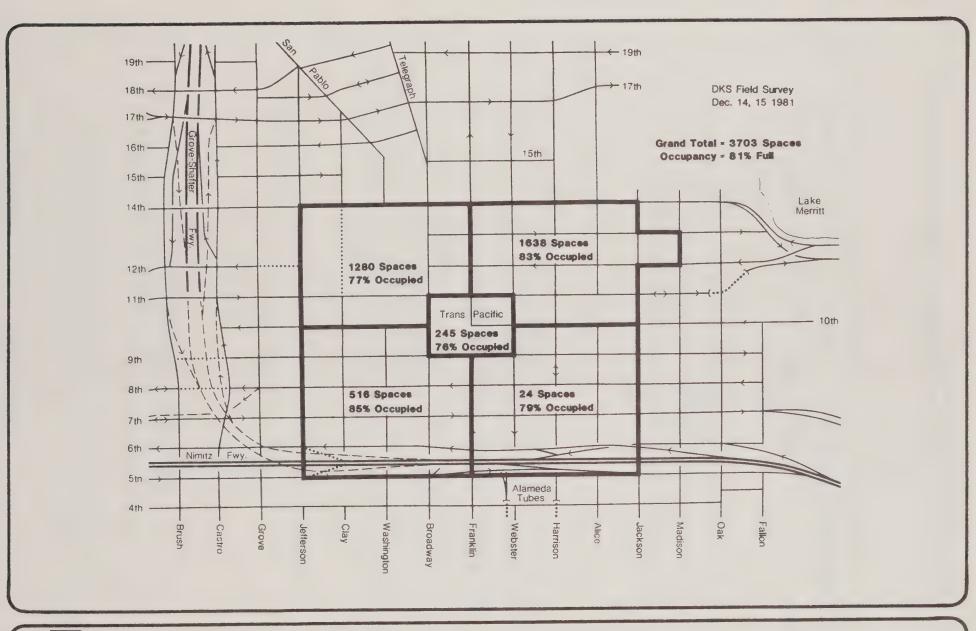
Table	3
BART	PATRONAGE
1981 F	PM Peak Hour I

Location	Route/Direction	Seats	Passengers	Load Factor
North of MacArthur Station	Daly City to Concord Daly City to Richmond Fremont to Richmond	4,169 1,339 1,498	5,813 1,507 1,256	1.39 1.13 0.84
South of Lake Merritt Station	Daly City to Fremont Richmond to Fremont	2,959 1,368	3,768 1,671	1.27 1.22
West of S.F. Civic Center Station	All routes to Daly City	6,199	5,946	0.96

"Representative Peak Weekday Load Factors for April-June 1981," BART Planning and Analysis, John Stamas.

PM Peak hour on individual routes generally falls between 4:00 PM and 6:00 PM.







Public Off-Street Parking Inventory

Figure No. 26

SOURCE: DKS Associates

5 Table 4 ON-STR

ON-STREET PARKING INVENTORY

Type of Parking	Nunber of Spaces	Percent Occupied
All day	239	100%
Two hour	1,135	88%
One hour	84	75%
Half hour	_2	100%
TOTAL	1,460	84%

20 Source

Source: DKS Field Survey December 14 and 15, 1981.

 the noon and PM peak hours. Pedestrian counts and capacity analysis at Eleventh and Broadway indicate that all crosswalks at this intersection are operating at level of service "A" during the noon and evening peak hour.

2. Impacts

This section discusses the travel demand generated by the proposed Trans Pacific Centre and other approved and proposed development projects in the vicinity of the Centre. The traffic, transit, parking, service vehicle, pedestrian and construction impacts are addressed.

a. Travel Demand Computations

The proposed Trans Pacific Centre would generate 25,300 person trips per day. About 4,690 person trips would be made during the PM peak hour (see Table 5).

The mode split and destinations of these trips were forecast based upon two recent surveys of downtown Oakland employees.³ It was forecast that transit usage by Oakland Central Business District (CBD) employees would increase as the CBD developed and parking became more scarce. Currently, 30 to 45% of employee commute trips are made via transit. It was projected that by 1984, roughly 40 to 50% of employee commute trips would be made by transit.

The peak hour mode split and distribution of trips generated by the proposed project are shown in Table 6.

Survey conducted by DKS Associates, February 1982.

See Appendix C for definitions of pedestrian levels of service.

Kaiser Center Employee Survey, November 1981, DKS Associates.
Oakland City Center Survey, November 1981, Grubb and Ellis Company.

Table 5 TRIP GENERATION OF PROPOSED PROJECT

<u>Use</u>	Amount	Rate ²	Daily Person <u>Trips</u>	Peak Hour Percent	PM Peak Hour Person Trips
Office	1,200,000 NSF	0.0175	21,000	20%	4,200
Commercial	52,000 NSF	0.0250	1,300	10%	130
Residential	400 Units	7.6	3,000	12%	360
TOTAL			25,300		4,690

SOURCES:

ITE Trip Generation Manual, 2nd Edition, Institute of Transportation Engineers, 1979.

"Traffic Generation for Oakland City Center Project," Memorandum to Chow Low from Barton-Aschman Associates, August 31, 1976.

NSF = Net Square Feet Floor Area

Office and commercial rates are daily person trip ends per net square foot floor area. Residential rate is daily person trip ends per occupied residential unit.

Table 6 PM PEAK HOUR MODE SPLIT AND DISTRIBUTION OF PROPOSED PROJECT TRIPS (1984)

Mode	Destination	Percent	Person Trips	Auto Vehicle Trips
Auto (52%)	Oakland Central Contra Costa Southbay North-Eastbay Alameda City San Francisco Berkeley North-Westbay	24.1% 26.4% 18.4% 8.9% 8.1% 7.4% 5.0% 1.7%	590 640 450 220 200 180 120 40 2,440	530 580 400 190 170 160 110 40 2,180
AC Transit (15%)	din sa	wa da	700	
BART (32%)		60 to	1,500	
Other (1%)	6 4		50	
Total (100%)		60-60	4,690	

SOURCE: DKS Associates.

 There are several development projects in the vicinity of Trans Pacific Centre which have been approved by the City of Oakland and are likely to be completed by 1984 (see Table 7). These include portions of the City Center, the Convention Center and Hotel, Victorian Row, and portions of the Alameda County Courthouse Complex at 6th and Clay Streets plus other projects. These projects will generate a total of 40,300 daily and 5,200 PM peak hour person trips.

There are also several other proposed development projects in the Oakland CBD which are in various stages of the approval and design process. They include the City Center, Kaiser Center, and various office buildings (see Table 8). All together these proposed projects (including Trans Pacific Centre) would generate 235,150 daily and 44,960 PM peak hour person trips.

b. Traffic Impacts

The potential impacts of Trans Pacific Centre and the cumulative impacts of nearby proposed development projects on traffic operations and freeway access are detailed in the following section. In addition, specific impacts of the Trans Pacific Centre site plan are discussed. Traffic impacts for the proposed Centre were analyzed for 1984 conditions, which is the estimated completion year of the project. To study cumulative impacts, 1990 traffic conditions were analyzed.

<u>Site Plan Evaluation</u>. Access to the proposed Trans Pacific Centere site is provided by Broadway, Franklin Street, Webster Street, 11th Street and 9th Street. Tenth Street, which is presently closed between Broadway and Franklin Street would be closed between Franklin Street and Webster Street. Parking garage access points are located (see Figure 5):

- 1. On the east side of Franklin Street, approximately 150 feet north of 9th Street, for office building users;
- 2. On the west side of Webster Street, opposite 10th Street, for residential parking.

Table 7 APPROVED PROJECTS IN THE VICINITY OF TRANS PACIFIC CENTRE

Dev	elopment	<u>Use</u>	Daily Person Trips	Peak Hour Person Trips
1.	City Center (O.B.III) (14th/Washington)	211,000 GSF - Office	3,200	630
2.	Convention Center/ Hotel (11th/Broadway)	130,000 GSF – Center 500 Rooms – Hotel (860 parking spaces)	10,000 2,700 12,700	700 200 900
3.	Victorian Row (9th/Broadway)	150,000 GSF - Office 150,000 GSF - Retail (no on-site parking)	2,250 3,000 5,250	450 300 750
4.	Alameda Co. Courthouse (6th/Clay)	New Courts Bldg and Pre- Trial Detention Facility (635 parking spaces)	2,6 50	460
5.	Bank of the Orient (12th/Webster)	10,000 GSF - Bank	250	30
6.	Trans Pacific Centre Phase I (11th/Broadway)	232,500 GSF - Office 78,700 GSF - Retail (356 parking spaces)	3,500 1,650 5,150	700 170 870
7.	BART/MTC (Oak/7th)	106,000 GSF - Office	1,600	320
8.	Phase I, Port Embarcadero Office	300,000 GSF - Office 470 Room - Hotel	4,500 5,000 9,500	900 <u>340</u> 1, <u>240</u>
	Total Projects Approve	ed or Under Construction	40,300	5,200

Notes:

 GSF = Gross Square Feet Floor Area.

Sources:

DKS Associates.

William Yee, Oakland Planning Department, "Major Buildings in the Central District," January 26, 1982.

A Transportation Study of the Proposed Convention Center/Hotel, City of Oakland,

May 18, 1979, TJKM Associates, Scenario "D."

Draft EIR - Jefferson Street Parking Facility, Alameda County Public Works, May 1981, page 15.

State office building not included because project has been indefinitely postponed due to budget cuts.

Table 8 PROPOSED PROJECTS IN THE OAKLAND CENTRAL BUSINESS DISTRICT 1,2

De	evelopment	Use	Daily Person Trips	Peak Hour Person Trips
Ce	ans Pacific entre - Oth/Franklin)	1,400,000 GSF ³ - Office 61,000 GSF - Retail 500 Units - Residential (2,000 parking spaces)	21,000 1,300 3,000 25,300	4,200 130 360 4,690
	ty Center 2th/Broadway)	4,460,000 GSF - Office 150,000 GSF - Retail 600 Units - Residential (2,700 parking spaces)	66,900 3,000 <u>4,550</u> 74,600	13,380 300 550 14,250
	aiser Center Oth/Harrison)	4,150,000 GSF - Office 270,000 GSF - Retail (2,800 parking spaces)	62,250 5,400 67,650	12,450 540 1 2,990
12. Lo	ake Merritt Plaza Oth/Webster) ⁴	890,000 GSF - Office (800 parking spaces)	13,350	2,670
	nes Building 9th/Harrison)	739,000 GSF – Office (400 parking spaces)	11,100	2,220
	adillac-Fairview 9th/Harrison)	900,000 GSF - Office (200 parking spaces)	13,500	2,700
	01 Webster 1st/Webster)	440,000 GSF - Office (53 parking spaces)	6,600	1,320
	d Broadway Bowl Grand/Broadway)	427,000 GSF - Office (400 parking spaces)	6,400	1,280
17. 14	th/Lakeside Drive	127,000 GSF - Office (78 parking spaces)	1,900	380
	hang/Elekman th/Franklin)	100,000 GSF - Office 45,000 GSF - Retail 500 units - Residential	1,500 950 3,800 6,250	300 100 460 860
0	ort Embarcadero Iffice Complex Embarcadero/Washin	500,000 GSF - Office 46,000 GSF - Retail gton)	7,500 1,000 8,500	1,500 1,600
Т	otal Proposed Projec	ets	199,730	38,320

Sources:

DKS Associates

An extremely volatile list of current developer plans which are subject to major changes without notice.

Excludes State Office Building and Kaiser Foundation Health Plan Addition because in the first case the project is dead and in the second case proposal is in extremely preliminary stages. List also excludes remodeling of existing buildings due to difficulty of obtaining accurate listing of projects and because these projects often replace one trip generator with another type of trip generator.

GSF = Gross Square Feet Floor Area.

Proposed bank replaces existing bank. No new trips generated.

William Yee, Oakland Planning Department, "Major Buildings in the Central District," January 26, 1982.

4 5

 A recessed garage entrance for office building parking allows sufficient room (up to 14 vehicles) for off-street queueing. Parking for 1,600 vehicles would be provided in the seven-level office parking facility. Additional on-site parking spaces are limited due to queueing and signal capacity requirements of Franklin Street and 11th Street (with cumulative development, the maximum size for a single-loaded garage off Franklin would be 2,000 stalls). Residential parking for approximately 400 cars would be accommodated in a separate garage.

Passenger loading area for the proposed office tower would be located along the east side of Broadway. Between 9th and 10th Streets, the east curb would be set back six feet to provide a 10 foot wide lane for AC Transit bus loading (100 lineal feet) and curbside automobile passenger activity (140 feet). The Phase I office building of Trans Pacific Centre (which is under construction) will provide three passenger loading zones, one fronting on Broadway, 11th Street, and Franklin Street. The proposed housing development would have a covered off-street porte cochere for passenger pickup and drop off activities accessible via 10th and Webster Streets. A new pedestrian bridge over Franklin Street encourages circulation on-site above street level and provides direct access between the office tower, housing and parking garage facilities.

Most bus routes near Trans Pacific Centre would not be altered by the proposed project. Due to closing of 10th Street between Franklin and Webster Streets, AC Transit Lines 32, 33A and 36, which currently run on this portion of 10th Street, would have to be rerouted.

Truck and service vehicle access for the office building would be provided on Franklin Street. The proposed loading facility allows trucks to drive through and maneuver into loading dock facilities off street. Service areas for the residential building would be with the port cochere off Webster Street.

<u>Street Intersections.</u> Since over 60 percent of the proposed development vehicle trips have destinations in Contra Costa County, San Francisco, northern and southern Alameda County, traffic impacts are most critical along corridors accessing the Nimitz and Grove-Shafter Freeway. Street intersections within these corridors are the controlling

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bottlenecks to traffic flow. Twelve key intersections in downtown Oakland were selected for detailed analysis.

The estimated future traffic volumes for each intersection were projected based on 1981 manual turn counts performed by the consultant and City of Oakland.

Background volumes were factored by one percent per year to estimate 1984 traffic conditions. Projects which are under construction in the CBD were also included in the 1984 background volumes. Level of service and volume-to-capacity ratios were determined to assess traffic performance during the evening peak hour (4:30-5:30 PM) based on critical movement analysis.²

Three scenarios were analyzed concerning the Trans Pacific Centre and surrounding street network. These include;

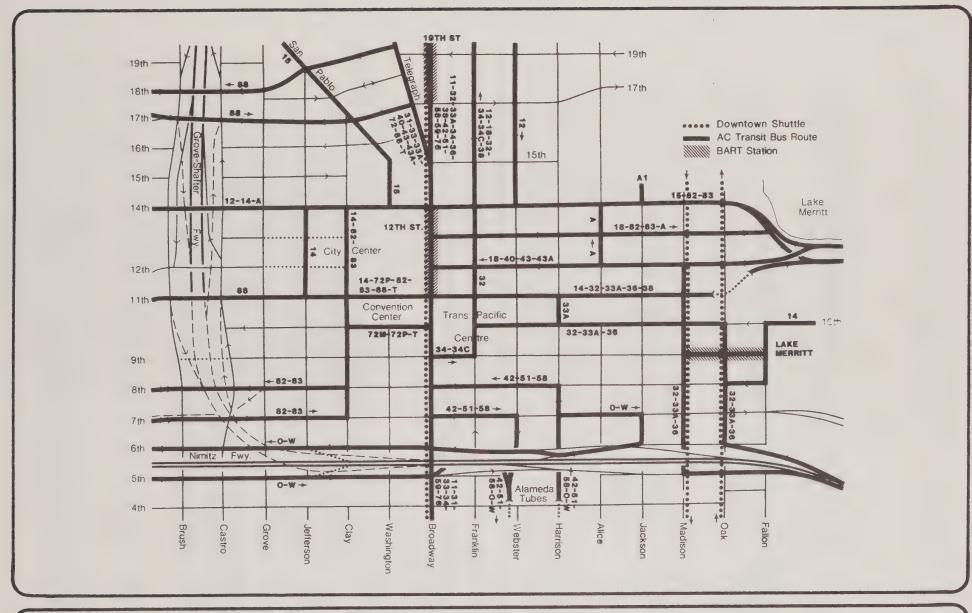
- 1. 1984 background growth without Trans Pacific Centre.
- 2. 1984 background traffic with Trans Pacific Centre.
- 3. 1984 background traffic with Trans Pacific Centre and conversion of 9th and 10th Streets to two-way operation.

In all scenarios, 11th Street and 14th Street have been assumed converted to one-way eastbound and westbound, respectively 3 (Figure 27). These scenarios provide a direct comparison of traffic flows at critical times, both with and without the proposed Trans

City of Oakland Traffic Engineering and Parking Division, I. Jeeva.

² "Interim Materials on Highway Capacity," Transportation Research Board, Circular No. 212, Washington, D.C., Janury 1980.

At the request of City of Oakland Traffic Engineering as the anticipated future street network.





Existing Transit Service Near The TransPacific Centre

Pacific Centre traffic. Table 9A presents the level of service and volume-to-capacity ratios for each of the key intersections under each evaluation scenario.

1984 Background. Under the base year conditions, all intersections operate at acceptable levels of service. Two intersections would approach unstable operation during the peak hour

(7th/Webster and 5th/Broadway). Webster Street and 7th Street presently experience significant queueing during portions of the evening peak hour due to double parking, weaving and heavy Alameda-bound volumes.

1984 With Trans Pacific Centre. The development of Trans Pacific Centre would cause a reduction in traffic service at three intersections during the base year. Two of the intersections would experience a reduction in level of service from "A" to "B" and one intersection would change from "B" to "C", levels which are considered acceptable from a traffic operations standpoint. Volume-to-capacity ratios would generally increase at all study intersections. Traffic from the proposed development would most significantly impact 11th Street near the site and 14th Street, the corridor approaching the Grove-Shafter Freeway.

1984 With Trans Pacific and Two-Way 9th and 10th Streets. Due to the closure of 10th Street, continuous circulation around the Trans Pacific site is not possible. To provide continuous clockwise circulation around Trans Pacific Centre and direct eastbound access from the residential garage off Webster Street, the project has requested conversion of 9th and 10th Streets to two-way operation to improve site access. Analysis of capacity conditions, with Trans Pacific Centre, indicate that changing 9th and 10th Street to two-way operation has little influence on level of service. Ninth Street volume-to-capacity ratios increase significantly; however,

Proposed in "Lake Merritt-Coliseum Development Project," City of Oakland, BART, MTC, January 1978, pg. 87, Figure 13.

 Table 9A INTERSECTION PERFORMANCE PM Peak Hour

Intersection	1984 Background	1984 With Trans Pacific	1984 With Trans Pacific Two-Way 9th & 10th ²
14th Street & Castro Street	A .27	A .36	A .37
14th Street & Broadway	B .67	C .77	C .76
12th Street & Castro Street	A .51	A .57	A .58
11th Street & Castro Street	C .74	C .77	C .76
11th Street & Broadway	A .48	A .49	A .48
11th Street & Franklin Street	A .39	B .64	A .58
11th Street & Webster Street	A .54	B .69	C .72
9th Street & Broadway	A .38	A .44	A .48
9th Street & Franklin	A .31	A .41	B .65
9th Street & Webster Street	A .50	A .59	B .68
7th Street & Webster Street	D .80	D .84	D .86
5th Street & Broadway	D .80	D .82	D .84

Includes City Center Office Building III, Victorian Row, Convention Center Hotel, Jack London Square Phase I (300,000 SF Office), and Phase I Trans Pacific Centre.

9th and 10th Streets are converted to two-way operation. 9th Street has two lanes eastbound, one lane westbound.

Letters are level of service (see Table 1) and numbers are volume-to-capacity NOTE: ratios.

intersection operation is still good to excellent. Franklin Street and 11th Street conditions are improved due to better site circulation.

In the two-way configuration 9th Street would have two eastbound lanes and one westbound lane. Tenth Street would operate with one lane in each direction, east of Webster Street. Two-way operation of 9th and 10th Streets does not change the basic traffic circulation since neither 9th nor 10th Street is a through street in the CBD. By retaining existing one-way signal progression, through movement in the opposite direction would not be encouraged, emphasizing this function only for local circulation. Access to Lincoln Neighborhood Center, Lincoln Children's Center and Lincoln Elementary School would generally be improved, without sacrificing the local nature of adjacent streets. On 10th Street, two-way conversion only represents changing four blocks between Madison Street and Webster Street, since 10th is presently two-way east of Madison.

Freeway Impacts. The Grove-Shafter freeway (SR 24, 1-980) operates at free flow conditions in the vicinity of downtown Oakland during the evening peak hour. It currently carries about 5,000 vehicles per hour west of the 1-580 interchange on eight lanes (total of both directions). Background growth plus the completion of all approved projects in downtown Oakland would cause the peak hour flow to reach 7,000 vehicles per hour in 1984. Trans Pacific Centre would add a further 870 vehicles per hour during the peak hour to the Grove-Shafter freeway.

There is sufficient capacity on the Grove-Shafter freeway in the immediate vicinity of downtown Oakland to adequately carry the increased flows. Critical congestion points downstream such as at the Caldecott Tunnel would be adversely affected. Existing congestion at these points would be increased by the growth of downtown Oakland. The proposed project would further increase this regional scale congestion.

Estimates for 1982 by DKS Associates based on, "1980 Traffic Volumes on California State Highways," by Caltrans.

 The completion of the Grove-Shafter Freeway connection to the Nimitz Freeway is projected in 1985. The majority of traffic analyses in the previous section assumes completion of the Grove-Shafter Freeway. Potentially, barring long delays, there would be a one year period between completion of Trans Pacific Centre and the new freeway connector. The significance of the Grove-Shafter Freeway completion is particularly important with respect to access for City Center and developments west of Broadway. Southern Nimitz Freeway access would be difficult without the new connector since no clear east-west circulation across Broadway is available. During this interim period, evening peak hour congestion could be expected on 11th Street and along the corridor to the Nimitz via Madison Street and 5th Street. Increased utilization of the 5th Street and Broadway on-ramp would increase congestion at this intersection.

The Nimitz Freeway (SR 17) also currently operates in uncongested conditions in the immediate vicinity of downtown Oakland. South of the Oakland CBD there are critical bottleneck sections of the freeway which are currently congested during the morning and evening peak hours.

Just south of the Oak Street ramps, the Nimitz F eeway carries 16,000 vehicles during the peak hour on an eight lane freeway (total of both directions). The flow is heavy but not congested in this section. Background growth plus the completion of all approved projects in downtown Oakland would raise peak hour flows on the Nimitz Freeway to 18,700 vehicles per hour by 1984. This would exceed the level of service "E" capacity of the freeway and cause cars to queue at the on-ramps to the freeway. This would cause traffic to back up on downtown Oakland City streets leading to the Nimitz Freeway during the evening peak period.

If Trans Pacific Centre were approved then it would increase the peak hour demand for the Nimitz Freeway by 500 more vehicles. This would represent about 2.7% of the total projected peak hour demand in 1984 for the Nimitz Freeway at the Oak Street ramps.

lbid.

 <u>Cumulative Growth Impacts</u>. The completion of proposed and approved office buildings in downtown Oakland (see Tables 7 and 8), other than Trans Pacific Centre, would significantly increase traffic volumes by 1990. Table 9B presents 1990 levels of service and volume-to-capacity ratios for two scenarios:

- 1. 1990 traffic with cumulative development not including Trans Pacific Centre.
- 2. 1990 traffic with cumulative development including Trans Pacific Centre.

In both scenarios, 9th and 10th Streets were assumed converted to two-way with 11th and 14th Streets being one-way streets eastbound and westbound, respectively.

1990 Cumulative Without Trans Pacific. Four intersections would operate at deficient levels of service ("E" or worse) due to cumulative developments. Castro Street at 12th and 11th Streets would operate poorly, owing mainly to the completion of the proposed City Center Master Plan. Webster Street at 7th Street and Broadway at 5th Street would operate at a degraded level of service primarily due to heavy Alameda-bound traffic.

1990 Cumulative With Trans Pacific. Compared to traffic operations in 1990 without Trans Pacific, no additional intersections would operate at deficit levels of service. However, five intersections would experience changes in level of service. The development would most significantly impact intersections near the site on 9th and 11th Streets, along with the intersection of Broadway and 14th Street (see Table 9B).

With cumulative development in the Oakland CBD, deficiencies in downtown circulation become more apparent. East-west circulation in the City Center area (especially across Broadway) is very limited. The alignment of streets north of 14th is not conducive to through circulation, due to the angled direction of San Pablo Avenue and Telegraph Avenue. High pedestrian and transit activity, especially in the vicinity of Braodway, make 14th Street a less than desirable high-capacity circulation route. The proposed site plans of City Center and Trans Pacific Centre eliminate the possibility of through traffic on 13th, 12th and 10th Streets. Eleventh Street continues from west of the Grove-Shafter Freeway through to east of the Oakland Auditorium, basically operating in an

Table 9B CUMULATIVE DEVELOPMENT INTERSECTION PERFORMANCE PM Peak Hour

Intersection	1990 Cumulative	1990 Cumulative with Trans Pacific
14th Street & Castro Street	A .35	A .41
14th Street & Broadway	C .72	D .86
12th Street & Castro Street	F 1.24	F 1.28
11th Street & Castro Street	E .98	F 1.02
11th Street & Broadway	A .56	A .57
11th Street & Franklin Street	A .42	B .69
11th Street & Webster Street	C .72	D .88
9th Street & Broadway	A .50	A .54
9th Street & Franklin	A .46	B .68
9th Street & Webster Street	D .80	D .87
7th Street & Webster Street	E .95	E .99
5th Street & Broadway	E .92	E .96

NOTE:

Letters are level of service (see Table I) and numbers are volume-to-capacity ratios.

Includes 9th and 10th Street as two-way; 9th Street has two lanes eastbound, one lane westbound.

 eastbound direction. However, there are no suitable high-capacity routes which provide complementary westbound circulation. Also, there is no continuous route which makes use of the new Grove-Shafter interchange to serve the CBD, especially east of Broadway.

To alleviate this deficiency, use of 12th Street as the westbound couplet to 11th Street should be explored. A 11th/12th one-way couplet with four lanes in each direction would greatly improve east-west capacity within the central CBD and allow 14th Street to remain two-way. A direct arterial connection between the Grove-Shafter Freeway would be established to City Center, Civic Center and the Oakland Auditorium/Laney College area. However, to accomplish this would require major restructuring of the City Center conceptual plan.

Cumulative development also aggrevates conditions at three points which access Alameda or the Nimitz Freeway (7th/Webster, 5th/Broadway, and 6th/7th/Broadway). Some potential improvements are mentioned below:

7th/Webster. To alleviate queueing of Alameda-bound traffic beween 9th and 7th Streets, Webster Street should be four continuous lanes to 7th Street. At 7th Street, Webster Street would have a left turn only lane and three through lanes. The two western most through lanes would serve the tube. The third through lane could serve the through movement to the tube by merging downstream of 7th Street (prior to the gore area) and the through movement towards the Jack London Square area. Upstream of the 5th Street connection, the two tube-bound lanes would merge into one lane. This would provide more Alameda through-traffic capacity by eliminating the lane drop at 8th Street while allowing the merge condition to occur downstream of the 7th and Webster intersection.

Recommended in "Study to Evaluate Accident Locations in the City of Oakland and Develop Remedial Safety Projects," July 1980, Site 48.

To minimize the concentration of traffic activity on Webster Street in Chinatown, evening peak period traffic destined for the Nimitz Freeway (which does not use the new Grove-Shafter Freeway) should be directed to use 11th Street. Presently, the only guide sign which directs Webster traffic to the Nimitz Freeway is located at 7th Street. It is unnecessary for Nimitz-bound traffic to penetrate Chinatown on Webster Street beyond 11th Street.

For southbound Webster Street, guide signs should be posted to direct freeway-bound vehicles to use 11th Street as a connection to Nimitz Freeway. In addition, geometric modifications should be made to Madison Street at 12th Street and at 10th Street to maintain three continuous southbound travel lanes by removing existing islands. Curb modifications, restriping and installation of a signal mast arm for westbound 10th Street traffic would be necessary. A new traffic signal will be added in the next year by City of Oakland at Jackson Street and 8th Street, which will improve safety for northbound Nimitz traffic.

5th/Broadway. To reduce the impact of short queueing space between 5th and 6th Streets on Broadway, additional storage could be created by adding a third northbound lane (requires curb setback to east) and a second southbound left turn lane (requires curb setback to west). The third northbound lane could start in front of the Alameda County offices on Broadway between 4th and 5th Streets, and terminate as a right turn only lane onto 7th Street. To improve lane control on southbound Broadway the existing overhead lane control sign could be replaced with directional signs to complement the addition of the second left turn lane. Addition directional signing should be used on 5th Street directing traffic to northbound Broadway, Alameda or southbound

Recommended in "Study to Evaluate Accident Locations in the City of Oakland and Develop Remedial Safety Projects," July 1980, Site 35.

 Nimitz Freeway/through Fifth Street. Semi-actuated signal control could be installed to minimize lost green time for turn phases.

6th/7th/Broadway. With cumulative developments, morning peak hour traffic from the northbound Nimitz Freeway off-ramp at 6th and Broadway would be congested and potentially dangerous. Presently, 760 vehicles turn right from the Nimitz off-ramp onto Broadway. Over 600 of these vehicles turn right onto 7th Street, with the majority using Franklin Street for through northbound progression. To make the movement from Broadway to 7th to Franklin requires weaving over four travel lanes on 7th Street. An additional weave also occurs when freeway traffic destined to northbound Broadway crosses on-coming Broadway traffic merging to turn right at 7th Street (128 vehicles vs 82 vehicles in the morning peak, respectively).

Completion of proposed and approved projects in downtown Oakland would increase the potential for sideswipe and end-of-queue accidents at 6th Street and Broadway. The movement of traffic from the Nimitz Freeway to Franklin Street would increase 53 percent, potentially to 1,160 vehicles in the morning peak hour. The number of weaving conflicts on Broadway between 6th and 7th Street would increase over 100 percent creating high potential for accidents.

Preliminary studies and discussions with the City of Oakland and Caltrans resulted in alternative off-ramp configurations. Three plans which would connect the existing Nimitz Freeway off-ramp directly to Franklin Street were proposed. Two of the plans appear feasible and could merit further analysis. All of the three plans assume the slip-ramp from Jackson Street to Broadway would be eliminated as part of the Grove-Shafter Freeway construction.

[&]quot;Oakland Downtown Shuttle Study," February 1980, pages 25-26.

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The first plan would involve reconstructing the Broadway off-ramp so the existing ramp serves as a collector-distributor road for traffic going to Broadway and 6th Street. A new off-ramp would be constructed beginning near Harrison Street and ending at 7th Street and Franklin Street. This plan assumes Caltrans freeway ramp standards¹ would be maintained. It would be necessary to acquire the eastern half of the block bounded by 6th, 7th, Broadway and Franklin Streets. Therefore, this plan appears to be viable only as a long range solution.

The second plan assumed reconstruction of Franklin Street south of 7th Street. Franklin would be offset to the west and raised to meet the grade of the existing Broadway ramp. Acquisitions of some portions of the parking lot west of Franklin would be required, but no building demolition would be necessary. Caltrans personnel will prepare a preliminary study of this plan in the near future, to determine if satisfactory geometrics could be developed. This plan does appear to be much more financially realistic than the first, but would require more study.

The third plan assumed construction of a direct off-ramp connection to Franklin, constructed to Caltrans ramp standards. It would not permit retention of the direct access to Broadway and 6th Street and is therefore not acceptable to City staff. It is not considered to be a feasible alternative.

Transit Impacts C.

Upon full occupancy by 1984, the proposed Trans Pacific Centre would generate about 2,250 transit person trips (two-way) during the PM peak hour, of which 32 percent would be via AC Transit and 68 percent via BART. Impacts on AC Transit and BART services under each future scenario are discussed below.

Re: "Highway Design Manual." State of California, Department of Transportation.

AC Transit. Under the no-project alternative, AC Transit PM peak period/peak direction ridership at key CBD access points (as described in Table 2) is projected to increase by about 12 percent (1,100 riders in the 2-hour period) by 1984 relative to current levels. This assumes full occupancy of all projects now under construction or approved (see Table 7) as well as one-half percent annual ridership growth due to any unforseen minor developments in the CBD and due to non-CBD growth. No spreading of the peak period is assumed. As indicated on Table 10, this would increase the average load factor for all outbound lines from 0.68 at present to 0.76 in 1984. At the cordon locations, average load factors on all bus routes would continue to meet AC Transit's 1.25 load factor objective. However, violations of the service objective during individual half-hour periods could be increased, particularly on lines presently approaching or exceeding this objective. This could be avoided or minimized by adjusting service levels up and down on individual CBD bus routes to balance load factors while keeping overall CBD service fixed.

The planned conversion of 11th and 14th Streets into a one-way street couplet will require changes in about six AC Transit routes in the downtown area. Portions of lines A, 12, 14, 15, 33A and 88 currently going westbound on 11th Street and eastbound on 14th Street would have to be switched to 14th Street or 11th Street as appropriate. This three block split in the routes would result in an extra three block walk for many of the current riders on these lines. These route changes and their impacts would occur independently of the proposed Trans Pacific Centre.

Completion and full occupancy of the proposed Trans Pacific Centre would further increase PM peak period/peak direction bus ridership by about 900 riders, or 10 percent of existing levels, by 1984. Assuming no increase in AC Transit seating capacity over the period and no spreading of the peak period, the overall average load factor over the two-hour PM peak period would increase to 0.83, or about 22 percent above the present load factor. The average load factor would continue to meet AC Transit's service objective, indicating sufficient overall transit capacity to the CBD. However, increased violations of the service objective during individual one-half hour periods and on individual lines would occur, particularly on lines with higher load factors today. As with the no-project alternative, these spot overloads could be minimized or avoided by re-allocation of service between CBD bus routes to achieve greater balance in load factors.

Table 10
PROJECTED AC TRANSIT LOAD FACTORS
Peak Period/Direction

			Existing ²	Projected Load Factors		
	Cordon Station	Routes	Load Factor	1984-No Project ³	1984 TransPac.4	1990 All Projects ⁵
١.	14th St./Grove	12, 14	0.28	0.31	0.34	0.64
2.	San Pablo/W. Grand	72	0.66	0.74	18.0	1.51
3.	27th/Telegraph	31,33,40,43	0.51	0.57	0.62	1.17
4.	27th/Broadway	42,51,59,76	0.58	0.65	0.71	1.33
5.	Grand/Harrison	11,12,18,34	0.81	0.91	0.99	1.85
6.	14th St./Oak	14,15,18,38,40, 42,82,83	0.78	0.88	0.95	1.78
7.	5th St./Oak	32,33,36	0.59	0.66	0.72	1.35
8.	6th St./Webster	42,51,58	0.83	0.93	1.02	1.90
		Average	0.68	0.76	0.83	1.55

SOURCE: DKS Associates

Ratio of number of passengers to seating capacity. Seating capacity is assumed to be fixed over the period.

From Table 2.

³ "No Project" assumes completion and occupancy of all projects currently approved or under construction (see Table 7).

[&]quot;Trans Pacific" assumes completion and occupancy of all projects currently approved or under construction plus the proposed Trans Pacific Centre.

[&]quot;All Projects" assumes completion and occupancy of all projects currently approved, under construction or proposed in the Oakland CBD (see Tables 7 and 8 for list of projects included).

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Impacts on AC Transit load factors are greatest by 1990 when completion and occupancy of all projects presently under construction, approved or proposed (including Trans Pacific Centre) are assumed (see Table 8 for list of projects). Under this scenario, AC Transit ridership is projected to increase by 129 percent over present levels due to the cumulative effects of all of the projects, as well as continued background growth of one-half percent per year. Trans Pacific Centre would account for 1,150 trips or about 10 percent of the projected growth. Assuming no change in AC Transit capacity and no spreading of the peak period, the overall PM peak period load factor would increase to 1.55. This indicates an overall shortfall of capacity over the two-hour period. (Of the 21 lines crossing the cordon, 12 lines would exceed the 1.25 load factor objective.) Therefore, in addition to re-allocation of service between CBD routes, it would be necessary to increase the overall level of service to the CBD in order to meet the load factor objective by 1990. Assuming an average of 50 seats per bus, about 65 additional buses would be needed in the peak two hours in order to achieve an average load factor of 1.25. Spreading of the peak period to achieve more uniform bus loadings over the twohour period would also need to occur in order to minimize violations of the load factor objective during individual half-hour periods.

AC Transit's current five-year plan does not anticipate any overall service expansion over the next five years, due to lack of funding. In the absence of increased funding in the future, any capacity increase for the Oakland CBD would essentially have to be accomplished by shifting existing service from less productive routes outside the CBD or during off-peak operating hours. AC Transit's emerging policy of evaluating and deploying service based on productivity measures will facilitate this kind of shift as demand in the future increases. Peak period seating capacity on some CBD routes could also be increased through increased deployment of higher capacity (e.g. articulated) buses which carry 69 seats. If these kinds of capacity improvements are not sufficient to accommodate future transit ridership, higher peak period load factors may ultimately have to be accepted, and a lengthening of the peak period should be encouraged. These various issues are being addressed in the Central District Transit Systems Improvement Study, the first phase of which is currently underway.

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The project proposes closure of 10th Street between Franklin and Webster Streets. This would require partial re-routing of the westbound direction of three AC Transit bus lines (#32, 33A and 36). One existing bus stop for these lines at the corner of 10th Street and Franklin would be closed. Inbound to the CBD, all three of these lines currently operate northbound along Oak Street, turn left onto westbound 10th Street and then right onto northbound Franklin Street. The three lines are commuter-oriented lines, operating during AM and PM peak periods only. A total of 14 morning and 12 evening runs would be impacted by the proposed street closure.

There are several alternative routes for these three bus lines that could be considered by AC Transit should 10th Street be closed between Franklin and Webster Streets. To retain as much of the existing route as possible and to best serve the project site, westbound buses could operate along 10th Street, turn left onto Webster Street, right onto 9th Street and then right onto northbound Franklin Street. This route would add out-of-direction travel (two blocks) and two turns to each of the lines in the inbound direction, possibly adding a couple of minutes of travel time. This bus route would only be possible if 9th Street were converted to two-way operation as discussed in the previous section.

A second alternative bus route involves diverting buses on the three lines from 10th Street to 9th Street between Oak and Franklin Streets. As in the previous alternative, this would require conversion of 9th Street to two-way operation. This alternative would not increase the route length over the current length, and would provide service adjacent to the project site. Service to areas along 10th Street and to the north (including the County Administration complex) would be less accessible, but to the south would be improved.

A third alternative bus route would divert westbound bus operation from 10th Street to 12th Street. This would be compatible with existing direction of flow on 12th Street, as well as with an 11th/12th Street couplet (as described earlier). Unlike the previous alternatives, this does not require any changes in street circulation. The route would not be lengthened over the existing one. This alternative would bring service closer to the County Administration complex, but would reduce accessibility to the project site. However, the nearest possible bus stop would be only about a block away (at 12th and Franklin).

BART. Under the no-project alternative, BART evening peak hour/peak direction ridership is projected to increase at the load points considered (see Table 3) by an average of 19 percent by 1984 relative to current levels. This assumes full occupancy of all projects now under construction or approved (see Table 7), as well as 4.1 percent annual ridership increase on the BART system due to growth outside downtown Oakland. During the same time period, BART system capacity is projected to increase by about 7 percent relative to today. Impacts on BART peak hour load factors are shown on Table 11. Load factors are projected to increase by about 7 to 33 percent on individual lines. The load factor on the Daly City to Concord line, which already exceeds BART's 1.30 standard, would further increase to 1.56. Load factors on the Richmond to Fremont and Daly City to Fremont lines would also fail to meet BART's service objective. Re-assignment of some cars from the Daly City-Fremont line to the Richmond-Fremont line (which currently operates with five-car trains) would balance load factors at the Lake Merritt Station, but resulting load factors would still exceed the standards.

Occupancy of the proposed Trans Pacific Centre would increase BART ridership by an estimated 1,500 persons (two-way) in the PM peak hour, resulting in an average 5 percent ridership increase over the no-project alternative. BART load factors would be further increased at all cordon stations, and would exceed BART's standard on the three previously mentioned lines as well as the Daly City to Richmond line.

By 1990, with occupancy of all projects currently under construction, approved or proposed, BART ridership would be further increased. Assuming continued 4.1 percent annual ridership growth in addition to any growth in downtown Oakland and no spreading of the peak period, ridership at the selected load points would increase by an average of 106 percent relative to 1981. About 5 percent of the increase would be attributable to

Source: 1981 BART District Short-Range Transit Plan (Final Draft), May 22, 1981, page 43.

lbid, page 56. Capacity increase is attributable to completion of third track in Oakland and to miscellaneous wayside improvements, and assumes constraints due to car availability.

Table 11

PROJECTED BART PEAK HOUR LOAD FACTORS

		Existing ¹	Projected Load Factors ⁵		
Location	Routes/Direction	Load Factor	1984 - No Project ²	1984 With TransPac ³	1990 All Projects ⁴
North of MacArthur Station	Daly City to Concord Daly City to Richmond Fremont to Richmond	1.39 1.13 0.84	1.57 1.26 0.94 (0.86)	1.66 1.34 1.00 (0.82)	1.79 1.45 1.08 (0.64)
South of Lake Merritt Station	Daly City to Fremont Richmond to Fremont	1.27 1.22	1.34 (1.46) 1.62 (1.46)	1.34 (1.58) 1.93 (1.58)	1.03 (1.92) 3.24 (1.92)
West of San Francisco Civic Center	San Francisco to Daly City (all lines)	0.96	1.03	1.04	0.89

Source: DKS Associates

From Table 3.

² Includes background growth plus approved projects from Table 7.

³ Includes background growth, plus approved projects, plus Trans Pacific Centre.

Includes background growth, approved projects and proposed projects from Table 8.

Presumes a 7 percent capacity increase by 1984, and a 71 percent capacity increase by 1990. Figures in parentheses represent re-assignment of cars from Daly City-Fremont line to Richmond-Fremont line to balance load factors at Lake Merritt station.

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the proposed Trans Pacific Centre. During this time period, BART system capacity is also projected to increase by about 7! percent and this would partially offset the increased ridership. Even so, peak period load factors on the Richmond-Fremont and Daly City-Concord lines would well exceed BART's standard of 1.30, even with lengthening of trains on the Richmond-Fremont line through re-assignment of cars.

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The system capacity increase projected by BART is based on peak hour/peak direction Transbay operational constraints and a constrained fleet size, and is scheduled to be achieved by about 1987. To satisfy the 1.30 load factor standard under the 1990 projected ridership levels, further system capacity increases would be needed. Consequently, it may be necessary for BART to consider alternative operating strategies and system capacity improvements beyond 1987. On the Daly City to Concord line, an equivalent of about four 10-car trains per hour would need to be added to the projected ten trains per hour in order to achieve a 1.30 load factor at the MacArthur station load point, resulting in a headway of roughly 4 minutes between trains on this line. On the Daly City-Richmond line, less than one additional train per hour would be needed, while on the Richmond-Fremont line about two additional trains per hour (plus lengthening of all trains to the full 10-car compliment) would be needed. An ongoing System Performance Study by BART, planned for completion in one to two years, will address this issue on a system-wide basis. In the absence of these types of capacity improvements, BART may be forced to accept higher peak period load factors, and spreading of the peak period should be encouraged through employer-based staggered or flexible work hours programs.

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d. Parking Impacts

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There are currently 245 public off-street parking spaces within the Trans Pacific Centre site. The proposed development would remove all existing on-site parking. A new 2,000 stall garage would be constructed on site with access to Franklin Street and Webster

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lbid, page 56. Assumes completion of third track in Oakland, miscellaneous wayside improvements, integrated control system, 90 new vehicles, Daly City turnback and other improvements planned by 1987.

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 Street. Four hundred of the new parking stalls would be reserved for residential tenants with access to Webster Street and the remaining 1,600 new spaces would be for office/commercial purposes with access on Franklin Street. In addition, Phase I of Trans Pacific Centre (currently under construction) will provide 356 new parking spaces when completed.

Projects under construction or approved in the vicinity of Trans Pacific Centre (Table 7) would increase demand for off-site parking in the CBD. Completion of all approved projects (including Trans Pacific Centre Phase I) would generate demand for 3,000 parking stalls. Parking for 1,800 cars will be provided as part of these projects, leaving a deficit of 1,200 parking stalls.

Trans Pacific Centre parking demand would be 3,560 spaces upon full occupancy (Table 12A). With 2,000 new parking stalls provided on site, a shortfall of 1,560 spaces would be created.

In 1984, upon completion of approved projects and Trans Pacific Centre, there would be an unmet parking demand of 2,760 (1,200 + 1,560) from new developments. Available off-street parking in the study area could potentially absorb 590 cars in existing lots and garages leaving an ovreall parking deficit of 2,170 space in the vicinity of Trans Pacific Centre. The Oakland urban renewal plan for the Chinatown area recommends a development the size of Trans Pacific Centre provide 1,828 parking spaces on-site!

The parking deficit in the central CBD would establish a new set of conditions in the downtown area where parking is reasonably available, presently. Parking rates would increase due to the high demand and many drivers would park more than a few blocks from their place of work. The infiltration of long-term downtown employee parking into the Lakeside, Civic Center, Laney College, Lake Merritt BART Station, Chinatown and Oakland Produce Market areas could cause disruptions. The lack of available, low-cost

Oakland Redevelopment Agency <u>Central District Urban Renewal Plan</u>, June 12, 1979, page 30.

5 Table 12A

PROJECTED PARKING DEMAND FOR TRANS PACIFIC CENTRE

(Demand and Supply Excludes Phase I)

Use	Long Term	Short Term	Total
Office	2,400	590	2,990
Commercial	40	70	110
Residential	400	_60	460
TOTAL PARKING DEMAND	2,840	720	3,560

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 parking would also cause many commuters to seek other means of traveling to work (potential mode shifts from single-passenger autos to transit and high occupancy vehicles could occur).

With increased parking rates, the development of additional small privately-owned parking lots could occur. This would increase the supply of parking in the CBD, but would also change some existing land uses. Additional off-street parking could be added by a parking authority to alleviate major parking deficits. Potentially a new garage or lot could be built or existing structures (such as the Merchant's Garage at 14th/Webster/13th/Franklin) could be expanded.

<u>Cumulative Impacts.</u> With completion of all proposed or approved projects in the Oakland CBD, parking conditions would become even more restricted. Completion of the proposed City Center project would roughly increase the parking deficit in the study area by 5,000 stalls. The overall deficit in the central CBD could reach 8,000 spaces without expansion of parking supply or changes in travel habits.

e. Service Vehicle Impacts

Oakland City Code (sections 7521 and 7523a,b) requires that Trans Pacific Centre provide six truck docks. The proposed project would provide ten off-street docks for the office tower.

The proposed project would attract approximately 265 to 285 service vehicle deliveries/stops per day. An average of 30 to 35 stops would be made each hour. All truck loading/unloading would be off-street, on the project site.

The proposed docks for the office tower would be accessed from Franklin Street. The driveways and entryways would be designed to allow drive-through operations for docking trucks. This feature eliminates the need for trucks to maneuver on Franklin Street in order to back into the docks. The loading area is designed to accommodate up to 40 foot wheelbase semi-trailer trucks.

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 Off-street service areas for the proposed residential and commercial developments on the block between Webster and Franklin would be accessed off Webster Street at 10th Street (see Figure 12). Each service area has space to park up to one 30 foot wheelbase single unit truck.

The Phase I Trans Pacific development which is under construction will have its own separate off-street truck docks off Franklin Street.

f. Pedestrian Impacts

Currently, the sidewalks bordering the proposed Trans Pacific Centre are free flowing during the noon and PM peak hours. The sidewalks bordering Phase I of Trans Pacific Centre on 11th Street, Broadway, and Franklin Street are currently closed for construction. A pedestrian count at Broadway and 11th Street indicates that all crosswalks are flowing freely at level of service "A" as defined by the Transportation Research Board of the National Academy of Sciences.

By 1984, with the completion of the Convention Center/Hotel, Phase I of Trans Pacific Centre and Office Building III of City Center the west crosswalk crossing 11th Street would have the highest pedestrian flows (roughly 990 pedestrians per hour at noon and 720 pedestrians per hour during the PM peak hour). This crosswalk would operate at pedestrian level of service "A" during the noon hour and at level of service "A" during the evening peak hour. The remaining crosswalks at 11th and Broadway would operate at equivalent or better levels of service. While the crosswalks crossing Broadway are 10 feet wide (rather than 20 feet wide for those crossing 11th Street) the projected flows are less than half of those flows projected for the west crosswalk crossing 11th Street.

Transportation Research Circular #212, January 1980, Transportation Research Board. See pedestrian levels of service definitions in Appendix C.

The proposed Trans Pacific Centre would generate roughly 26,100 daily pedestrian trips of which 4,700 pedestrian trips would be made during the PM peak hour and 5,500 pedestrian trips would be made during the noon hour. Approximately 32 percent of the peak hour trips would be bound for the BART station entrances at 11th Street and Broadway.

The single greatest generator of pedestrian trips in Trans Pacific Centre would be the office tower which would generate 21,000 daily pedestrian trips or 83 percent of all pedestrian trips generated by the proposed project.

Several pedestrian flow features have been incorporated into the proposed project based upon the above facts. The public entrance and exit to the office tower will be above street level. This second floor lobby will connect directly to the garage via a pedestrian bridge across Franklin Street. The office tower lobby would also be connected directly via another pedestrian bridge to the Phase I office building/commercial center currently under construction at 11th and Broadway. The Phase I building has been designed to provide direct and covered access (via escalators and a retail mall) between the intersection of 11th and Broadway and the office tower.

Thus most pedestrian flows would occur internal to the proposed project. Peak hour and lunch hour pedestrian trips to access cars in the garage would use the pedestrian bridge across Franklin Street. Most pedestrian trips bound for the City Center and the 12th Street BART station would pass through the Phase I building before using public sidewalks at 11th and Broadway. Pedestrian trips accessing AC Transit would be able to go directly to the bus stops on Broadway and Franklin Streets with a minimum of travel on uncovered public sidewalks.

The critical location impacted by Trans Pacific Centre pedestrian trips would be at 11th and Broadway where pedestrians leaving the project must cross the street to reach the BART station, City Center, and/or the Convention Center. The completion of Trans Pacific Centre (plus the Convention Center, Office Building III, and Phase I Trans Pacific Centre) would cause 1984 pedestrian volumes at this intersection to reach 1,500 pedestrians per hour during lunch hour and 1,900 pedestrians per hour during the evening

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 peak hour at the east crosswalk crossing 11th Street. The other crosswalks at this intersection would have lower flows.

With completion of Trans Pacific Centre the east crosswalk at 11th and Broadway would operate at pedestrian level of service "B" during the PM peak hour. The south crosswalk crossing Broadway would operate at pedestrian level of service "C" during the noon hour. The remaining crosswalks at this intersection would operate at equivalent or better service levels.

Further construction work at City Center would add pedestrian trips primarily to the non-critical crosswalks at 11th and Broadway. The peak hour and noon hour levels of service of these crosswalks would continue to be level of service "C" or better. The BART station entrances on the City Center side of Broadway would absorb much of the additional peak hour pedestrian flows generated by new City Center projects.

The City of Oakland has proposed that a 200 foot long, 20 foot wide underground pedestrian tunnel be built connecting Trans Pacific Centre and the Convention Center directly to the mezzanine level of the 12th Street BART station. It has been estimated by BART that this tunnel would cost roughly \$10.5 million to design and construct.

The proposed tunnel would be attractive primarily to commute trips using BART and would have little effect on lunch hour pedestrian flows at 11th and Broadway. The tunnel would reduce evening rush hour crosswalk flows by 60 percent to 70 percent but would have no significant effect on lunch hour pedestrian flows.

g. Construction Impacts

The 68-story Trans Pacific Centre Tower would be ready for occupancy approximately 31 months after the start of construction. Foundation work would take about five months. Structural steel erection would take another nine months. The most severe traffic

BART, BART Access Report, Phase III, May 1981, page 68.

 impacts due to construction would take place during these first 14 months of construction.

The following lane and sidewalk closures would be made during construction:

- Broadway: east sidewalk from 9th to 10th Streets
- Franklin Street: parking lanes, travel lanes, and sidewalks on both sides would be closed from 9th to 10th Streets so that only 2 travel lanes would remain open for traffic. Between 10th and 11th Streets only the east side of the street would be closed for construction.
- Webster Street: west sidewalk, parking lane, and one travel lane to a total of 15 feet from the curb (between 9th and 11th Streets) would be closed.
- Ninth Street: North sidewalk and 18 feet from face of curb would be closed from Broadway to Webster.
- Eleventh Street: south sidewalk and south half of street would be closed from Franklin to Webster.

The sidewalks in the area currently are uncongested. There are alternative paths available to pedestrians so that the temporary closure of the sidewalks bordering Trans Pacific Centre should cause no significant pedestrian impacts.

The parking lane closures would reduce available on-street parking in the area by roughly 100 spaces. The existing 245 surface parking stalls would also be removed when construction begins. A maximum of roughly 700 construction employees would be present at the Trans Pacific Centre site during construction. Assuming that 70 percent of the construction workers drive cars, then demand for approximately 500 parking spaces would be generated during the term of construction.

Turner Construction Company.

Howard Clune, Turner Construction, February 1982.

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 Ninth Street is a relatively lightly travelled one-way street so that the closure of the north half of the street would cause little traffic congestion problems.

Eleventh Street is the only east-west through street between 9th and 14th Street. Closure of this two-way street to one direction of travel would adversely affect circulation in the downtown area. The contractor or the City of Oakland should temporarily restripe the north side of 11th Street opposite Trans Pacific Centre so as to allow continued two-way travel on the street. Current traffic volumes on this street are low to moderate ranging from 7,000 to 8,000 vehicles a day.

The temporary loss of one out of four travel lanes from Webster Street during construction would probably not increase congestion on this street since the capacity bottleneck is currently at the intersection with 7th Street where Webster Street has only three travel lanes. The mid-block loss of a travel lane should not be serious.

Franklin Street would continue to operate at uncongested levels of service with the temporary closure of two of the travel lanes between 9th and 10th Streets.

The following AC Transit bus stops would be temporarily closed during construction:

- N.E. corner on Broadway at 9th Street (Lines 11, 31, 42, 51, 51M, 59, 76, and Downtown Shuttle)
- N.E. corner on 10th Street at Franklin (Lines 32, 33A, 36)
- S.E. corner on Franklin Street at 11th Street (Lines 32, 33A, 34, 34A, 34C, 36, 61)
- S.E. corner on 11th Street at Franklin (Lines 14, 32, 33a, 36, 38, 40, 40B, 43)

3. Mitigation Measures

a. Measures Included in the Proposed Project

• The project provides for above street level pedestrian circulation throughout the site. Grade separated pedestrian crossings from the main tower to the parking garage and Phase I building would be constructed.

Passenger loading area on Broadway would be accommodated by setting the
east curb back 6 feet between 9th and 10th Streets. Room for an AC Transit
bus stop would be provided along with linear curb space for automobile
passenger pick ups and drop offs.

 Off-street queueing space would be provided for access to and from the parking garage. Storage room for 14 vehicles off-street would be provided for the office building parking and a porte cochene would allow off-street queueing into the residential parking garage.

• Truck loading would occur off-street in a drive through loading dock facility eliminating truck maneuvering on City Streets. Ten loading berths would be constructed for service vehicles.

b. Other Recommended Measures

• Webster Street and 7th Street intersection can be improved by eliminating the lane drop on Webster at 8th Street and continuing four travel lanes to 7th Street. At 7th Street, Webster Street should have a left turn only lane and three through lanes. Nimitz Freeway traffic using Webster Street should be directed to use the 11th Street/Madison/Jackson corridor to access the freeway. Curb, island and signal modifications are necessary on Madison Street and Jackson Street to provide uncongested, safe traffic flow to the freeway. However, even with street improvements, good intersection performance is contingent upon enforcement of double parking violations in Chinatown.

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- Broadway and Fifth Street intersection can be improved by widening northbound Broadway to three through lanes between 4th Street and 7th Street. A second southbound left turn lane should be added on Broadway for Alameda and freeway-bound traffic. Curb set backs and median modifications are necessary under the freeway. Improved directional signing would promote orderly traffic flow and improve safety.
- The bus stop facing the project, especially along Broadway, should be upgraded by providing shelters, benches and good lighting.
- Multiple-ride BART tickets and monthly passes for AC Transit should be sold on site, for transit commuter convenience.
- Protected pedestrian ways should be built during construction to replace closed sidewalks.
- Traffic control should be provided when construction requires the closure of any travel lanes.
- Trans Pacific Centre should encourage development of a Transportation System Management (TSM) program by designating a full-time transportation By maintaining an on-site information center (kiosk), promoting ridesharing, coordinating with RIDES for Bay Area Commuters, establishing a preferential parking program for high occupancy vehicles and working with Centre tenants to spread out peak demand, Trans Pacific Centre trip generation in the peak hour could be reduced 20 percent.

Transportation System Management. A TSM program includes low-cost means of making efficient use of all transportation systems in a coordinated fashion. A TSM program's objective is to reduce the number of automobiles being driven to work and the number of parking spaces required by providing incentives to promote the use of carpools, vanpools and transit.

Presently, large, single-site private businesses throughout the United States have begun to develop and implement TSM programs to help solve their particular traffic access and parking problems and to reduce energy use. Employers are realizing that implementing a TSM program costs less than developing new parking and access road facilities or opening up new offices or work sites.

Successful Programs. Three large institutions that have successful TSM programs are 3M, the Tennessee Valley Authority (TVA) and the University of California at San Francisco (UCSF). In 1973, 3M in St. Paul, Minnesota, began the nation's first vanpooling program. The company now has 1,200 employees using over 100 vans and another 2,000 employees in carpools.

As a response to employee and citizen concern, as well as projected parking structure costs in the millions of dollars, the TVA developed a TSM program. This program included express bus service for TVA employees, employee discounts on commuter bus tickets, parking cost subsidies for carpools, a vanpooling program, and assistance to handicapped employees. Within one year, the initial program reduced single occupant cars from 65 percent to 42 percent. By the beginning of 1977, expansion of the vanpool program and bus subsidies further reduced the single occupant percentage to 18 percent of the work force of 3,400.

UCSF has initiated an aggressive and well-financed TSM program, which now includes 6 express buses, 20 vanpools, 4 shuttle buses to other cooperating medical facilities, close to 200 carpools, extensive marketing and promotion of alternative transportation means to the campus, and parking management measures. The results have been an estimated 8-10 percent reduction in the number of automobiles traveling to the campus.

 Eleven institutions in San Francisco have recently pursued TSM measures at the encouragement of the City to reduce traffic and parking impacts in residential neighborhoods. The programs included elements of:

- Ridesharing carpools and vanpools;
- Parking Management -- preferential parking for pool vehicles, reduced parking fees for pools coupled in some cases with residential permit parking plans;
- TSM broker for each institution to coordinate transit and ridesharing marketing efforts.

An evaluation of these programs was undertaken one year after implementation. Results of this study indicate the potential value of successful TSM programs:

- 1. Auto usage was reduced two to nine percent;
- 2. A reduction in the number of single-passenger vehicles of 14 to 20 percent was realized:
- 3. Auto occupancy increased 4-13 percent;
- 4. On average, seven out of ten single-occupant automobiles were parked in either employer-provided lots or garage, or in other paid parking. About three out of ten cars were parked on-street. A 23 percent reduction in on-street parking was realized and overall parking demand decreased 5 to 20 percent.

[&]quot;Transportation System Management Plan Evaluation Study: Final Evaluation Report, Joint Institutional Combined Report," San Francisco City Planning Department, December 1980.

 It should be noted that most successful TSM programs were developed for large employers because a large employment base gives higher probabilities that some people will live close together and have similar travel needs.

Program Elements. Successful TSM programs, generally have six basic elements:

- 1. <u>Information and Marketing</u>. Establishing an information center or kiosk, distributing new employees packets, and publishing articles in company magazines describing TSM benefits are useful measures. Other marketing tools include subsidizing transit or ridesharing costs, selling multiple-ride transit tickets and providing payroll deduction for commute tickets;
- 2. <u>Ridesharing</u>. Carpools, vanpools, subscription buses and shuttles can all make major contributions to shifting commuters away from single-occupany autos in a cost-effective manner;
- 3. <u>Parking Management</u>. Reserved, preferred parking spaces, remote site parking with shuttles and lower parking fees (or no cost) in parking garages for ridesharing vehicles are highly useful strategies;
- 4. <u>Transit Improvements</u>. Low-cost public transit improvements (shelters, distribution of schedules, etc.);
- 5. <u>A TSM Program Manager</u>. Designating a person (by the building owners) to be responsible for implementing and coordinating TSM measures and information;
- 6. <u>Ridesharing Coordination</u>. Utilizing existing carpool and vanpool services, such as RIDES for Bay Area Commuters.

Work Hours Programs. In addition to reducing the overall automobile usage for a building through TSM, spreading the peak travel demand over a greater period of time more effectively utilizes transit equipment and lessens potential roadway

congestion. Staggered and flexible work hours are means of balancing peak hour trip generation in the peak period (2-3 hours). Staggered work hours fix employee work hours, where flexible work hours generally allow employees to set their own work schedule within a range of normal start and end times. The goal is to achieve an overall mix of employee working times which distributes trip generation over a two to three hour period instead of a very short intense peak period.

The same person in charge of the TSM program could negotiate with tenants to balance the entire buildings working hours. Trans Pacific Centre could potentially reduce peak hour trips by 10 to 20 percent by distributing work hours more evenly.

Table 12B shows the distribution of evening peak period (two hour) trips for downtown Oakland and two building complexes which have some form of work hour programs. Approximately 45 percent of the City Center employees in Oakland voluntarily participate in flextime hours scheduling. Fireman's Fund in San Rafael aggressively developed a balanced work hours program. A significant reduction in peak hour trip generation (37 percent) can be achieved by spreading the peak onto the shoulders.

Mitigation Results. The improvements to Webster/7th and Broadway/5th intersections along with a strong TSM program could have significant effects on traffic flow, transit operations and parking conditions. In 1984, two of the study intersections would operate at level of service "D" with completion of Trans Pacific Centre. With street improvements at 7th Street/Webster Street and 5th Street/Broadway (detailed in previous sections), level of service would be reduced at both intersections to "C" and "B", respectively (Table 12C). Should a TSM program be instituted, peak hour vehicle trips could be reduced 10 to 20 percent. This would further improve intersection operation (Table 12C).

A strong TSM program would also reduce parking demand and spread out peak transit demand. A coordinated work hours program could reduce severe capacity constraints on AC Transit and BART by spreading demand to the shoulders of the peak. Parking demand for Trans Pacific Centre could be reduced up to 20 percent with significant participation

Table 12B
TRIP PEAKING CHARACTERISTICS
Percent of Evening Peak Two Hour Trips

	Downtown Oakland	Oakland City Center ²	Fireman's Fund San Rafael ³
Half Hour Preceding Peak	7%	12%	22%
Peak Hour	85%	60%	53%
Half Hour Following Peak	8%	28%	24%

RIDES for Bay Area Commuters data base for City Center, Civic Center, Kaiser Center and Jack London Square zones, February 1982.

² Survey conducted by Grubb & Ellis Company, November 1981.

³ "Fireman's Fund/American Express: San Marin Master Plan -- Supplemental Data," City of Novato, February 1979.

Table 12C INTERSECTION PERFORMANCE WITH MITIGATION

PM Peak Hour

1984 Trans 1984 Trans Pacific 1984 With Trans Pacific with with Street Improve-Trans Pacific Intersection Street Improvements ments and TSM² 7th Street & Webster St. D.86 C .75 C .73 D.84 B.63 B.62 5th Street & Broadway

Assumes 9th and 10th Street are converted to two-way. Includes all background developments in 1984.

Assumes a 10 percent reduction in PM peak hour vehicle trips at Trans Pacific Center due to TSM program.

in ridesharing programs, providing reduced parking rates for carpools and vanpools, and other external factors (such as availability and price of fuel, and availability of price of parking). With strong TSM participation, Trans Pacific Centre would require parking for 2,850 cars, leaving a shortfall in on-site parking of 850 spaces (2,850-2,000). In essence, the parking shortfall for Trans Pacific Centre could be reduced over 40 percent with an active TSM program.

B. AIR QUALITY

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I. Setting

Oakland lies on the east shore of San Francisco Bay and is usually exposed to the influx of marine air from the west. Maximum summer temperatures average near 700F and minimums average in the low 50s. Winter maximums are in the middle 50s and minimums are in the upper 30s. Precipitation totals nearly 18 inches annually on the average. Summer stratus clouds are frequent.

Winds, as measured at Oakland Airport located several miles southeast of the project site, are primarily from the west. The second most frequent winds occur from the southeast, perhaps reflecting drainage flow from the Hayward Gap. Winds are strongest and most persistent in the spring and summer.

The air pollution potential of the Oakland area is moderate. High average winds generally promote dilution and transport of pollutants; however, there are periods of light winds, particularly in the evening and morning hours, when pollutant levels can build up rapidly.

Table 13 presents air quality data for Oakland and San Leandro. The data indicate that air quality standards for CO and ozone are not violated at the Downtown Oakland monitoring station, although the ozone standard is violated in nearby San Leandro. Based on monitoring data from nearby cities for suspended particulates, sulfur dioxide and oxides of nitrogen, it appears unlikely that violations of the standards for these pollutants would occur in Oakland.

Because the air quality standards are not met in all areas of the Bay Area, the Air Quality Plan for the Bay Area, as part of the Environmental Management Plan, has been prepared by the Association of Bay Area Governments (ABAG) and other governmental agencies. This Plan contains a strategy for the long-term attainment and maintenance of the air quality standards. It includes measures to reduce emissions from stationary sources and automobiles and suggests transportation measures to reduce automobile emissions. The air quality problems addressed in the Air Quality Plan are photochemical oxidants, carbon monoxide, and suspended particulates.

TABLE 13

NUMBER OF DAYS EXCEEDING STATE OR FEDERAL AIR QUALITY STANDARDS AND MAXIMUM CONCENTRATION IN PARTS PER MILLION (IN PARENTHESIS) 1980

Pollutant	Oakland	San Leandro		
Ozone (EAE)	0.0 (0.12)	2.7 (0.15)		
Carbon Monoxide2	0.0 (7.4)			

The federal ozone standard is based on a 3-year average called the Expected Annual Exceedance (EAE). An EAE of 1.0 or less is considered compliance with the standard.

²The federal 8-hour average standard for CO is 9.3 parts per million (ppm).

Source: Bay Area Air Quality Management District.

2. Impacts

Construction activities would generate pollutants in the vicinity of the project. Trucks and equipment would release exhaust that would affect neighboring buildings during construction hours. Earth-moving and grading would generate dust and suspended particulates.

Direct atmospheric emissions from the project would be from combustion of natural gas for water and space heating. Natural gas is a relatively clean-burning fuel; therefore, no visible fumes would occur. Exhaust gases would be emitted at rooftop level and would be diluted to concentrations below the ambient air quality standards before reaching ground level; although such emissions would contribute to an increase in background levels of pollutants, the impact would be negligible compared to the impact from vehicular emissions.

The project would act as an indirect source of atmospheric emissions, because of the automobile traffic it would generate. On the local scale, carbon monoxide (CO) is the most important pollutant emitted by automobiles. Projected CO concentrations for 1984 near the site (including traffic generated by the proposed project and other approved projects) were calculated using traffic volumes presented in the transportation section of this report. Section IV.A. Results for worst-case meteorological conditions are summarized in Table 14. These concentrations represent the exposure a person would have at curbside. Carbon monoxide levels would drop off rapidly with distance from curbside. The highest concentration would occur during the P.M. peak hour.

The results indicate that violations of either the 1-hour or the 8-hour average CO standards would not occur at curbside at any of the critical intersections studied. Differences of 2 ppm or less in the 1-hour averages between the project and no-project alternatives are predicted to occur at Broadway and 14th Street, Broadway and 5th Street, and at Webster and 9th Street. No differences are predicted to occur for the 8-hour average concentrations, indicating that the CO impacts of the proposed project at the intersections studied are within the expected range of error of the estimation procedures and are not expected to be measureable.

The predicted generally improving trend in air quality is due to the effects of state and federal regulations limiting vehicular emission rates. At the intersections of Castro and 12th Street and Broadway and 14th Street there would also be air quality improvements due to a reduction in traffic volumes caused by alterations in the street and highway network in Downtown Oakland.

Sensitive receptors in the vicinity of the project include the Lincoln Elementary School (bounded by 10th, 11th, Jackson, Alice), the Lincoln Children's Center (bounded by 9th, 10th, Harrison, Alice), and the Oakland Hotel (bounded by 13th, 14th, Harrison, Alice). CO concentrations at these locations are estimated to be within air quality standards under existing conditions as well as future conditions with or without the proposed project. Project-generated traffic would cause increased CO concentrations; however, these increases would not be of measurable magnitude.

The regional impact of the project would be due to the increase in vehicle miles traveled (VMT) associated with the project. Based on the predicted number of project generated

TABLE 14

CARBON MONOXIDE (CO) CONCENTRATIONS AT IMPACTED INTERSECTIONS PARTS PER MILLION (ppm)

	1981 Existing		1984 Without Project		1984 With Project	
	I-hr.	8-hr.	<u>I-hr.</u>	8-hr.	l-hr.	<u>8-hr.</u>
Castro/12th St.	19	7	15	6	15	6
Broadway/14th St.	: 19	7	15	6	17	6
Broadway/9th St.	14	7	14	6	14	6
Broadway/5th St.2	34	10	33	9	34	9
Webster/9th St.	18	7	16	6	18	6
Webster/7th St.	21	7				

I-hour average CO standard is 35 ppm 8-hour average CO standard is 9 ppm

¹The calculations were made in accordance with the procedures contained in: Bay Area Air Pollution Control District, Guidelines for Air Quality Analysis of Projects, 1975, revised July 21, 1981. The following assumptions were used:

- 1-hr. average background concentration is 8 ppm (1981), 7 ppm (1984)
- 8-hr. average background concentration is 6 ppm (1981), 5 ppm (1984)
- peak-hour traffic is 20% of average daily total (ADT)
- average link speed is 25 mph
- Highway 17 (Nimitz) Freeway flows at 55 mph (except for 1984 peak hour (45 mph)

2Includes impact of Nimitz Freeway, which is an elevated road between 5th and 6th Streets. Vehicular exhaust is treated as if it were released at ground level at the intersection of Broadway and 5th Street to represent air quality impacts under worstcase conditions; this assumption is likely to overestimate CO concentrations.

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trips and their associated lengths, the daily regional increase of VMT due to the project is estimated at 200,000. Using updated composite emission factors supplied by the Bay Area Air Quality Management District and assuming an average trip speed of 20 mph, total regional emissions from the project traffic have been estimated in Table 15.

The increase in regional emissions would result in a degradation of regional air quality. Of particular importance are the increases in emissions of hydrocarbons and oxides of nitrogen which may react in the atmosphere to form photochemical oxidants, the principal component of which is ozone. A recent study of regional air quality found that photochemical oxidants would be a persistent problem in the future and that reductions in emissons of hydrocarbons and oxides of nitrogen would be necessary to attain the federal standard for ozone in the Bay Area.

In order to assess the potential impact of the proposed project on regional ozone concentrations, it is useful to compare it to a project for which extensive analysis and modeling of the ozone potential was performed. In particular, photochemical oxidant modeling conducted for the proposed Yerba Buena Center² showed that the emissions from that project would result in no measureable change³ in Bay Area oxidant concentrations due to the relative insensitivity of ozone concentrations to perturbations in emissions of hydrocarbons and oxides of nitrogen.

Although the regional emissions of these pollutants for the proposed project would be somewhat greater than for the Yerba Buena Project, and although the Yerba Buena Center is across the Bay from the proposed project and is therefore not directly representative of the air quality impact of the proposed project, a comparison with the Yerba Buena Center results indicates that it is not likely that increases in regional ozone concentration due to the project would be of measurable magnitude. Since photochemical reactions are such that peak ozone concentrations occur several hours after hydrocarbons and nitrogen oxides are emitted, it is not expected that the project would have an effect in Oakland itself.

Association of Bay Area Governments, 1979 Bay Area Air Quality Plan, 1979

²San Francisco Department of City Planning and San Francisco Redevelopment Agency, Final Environmental Impact Report, Yerba Buena Center, January 1978.

³Approximately 0.05 ppm or greater ozone would be measurable and reportable by conventional monitoring systems. Federal Highway Administration, <u>Highway Air Quality</u> Impact Appraisals, Vol. 1, Report No. FHWA-RO-78-99, Washington, D.C., 1978.

TABLE 15
REGIONAL VEHICULAR EMISSIONS I

(tons/day)

Pollutant	1984 Project Emissions	1984 Regional Total Emissions ²	Project % of Regional Total
Carbon Monoxide	6.00	2400	0.25%
Hydrocarbons	0.50	590	0.08%
Nitrogen Oxides	0.50	600	0.08%
Particulates	0.52	510	0.10%

Based upon a daily average of 200,000 vehicle miles traveled.

²Bay Area Air Quality Management District, <u>1979 Source Inventory</u>, 1980.

In order to estimate the potential ozone impact of cumulative development in the Downtown Oakland area it is useful to examine the number of daily person-trips expected to result from various projects. A summary of these impacts appears in Table 16.

Since the proposed project is expected to result in an increase of approximately 0.08% in regional emissions of hydrocarbons and oxides of nitrogen in 1984, it may be inferred that cumulative development will result in a total increase of approximately 0.6% in emissions assuming the same modal split and vehicle occupancy rates for other projects as were assumed for the proposed project and completion of all projects. Since some of these projects would produce a smaller proportion of auto trips and some would not be constructed until later years (when vehicular emissions rates are lower) the actual increase in emissions would be likely to be smaller than 0.6%. Due to the relative insensitivity of ozone concentrations to perturbations in emission rates of hydrocarbons and oxides of nitrogen, no measurable change in ozone concentrations would be likely to occur even if the actual increase in emissions proved to be as high as 6%.

TABLE 16 DAILY PERSON TRIPS IN DOWNTOWN OAKLAND

Proposed Project	26,100
Other Proposed Projects	150,360
Other Approved Projects	23,270

The proposed project is consistent with the Comprehensive Plan of the City of Oakland which is incorporated in the 1979 Bay Area Air Quality Plan. The proposed project is well located for transit use, and although an increase in regional VMT would result, the project would not conflict with transportation control measures contained in the 1979 Bay Area Air Quality Plan. However, the increase in total VMT would delay the attainment of the air quality goals contained in the plan.

Association of Bay Area Governments, 1979 Bay Area Air Quality Plan, Berkeley, 1979.

3. Mitigation

The project's location in the Oakland downtown area can be viewed as a mitigation measure for regional air quality because of the combination of transit access from BART and AC Transit. However, an estimated 40 to 50% of project-generated trips would be made by automobile and would add to traffic volumes in the area. The measures discussed in the section on transportation mitigation in this report which would reduce traffic volumes and congestion also would reduce air quality impacts.

Watering to control dust on-site during construction would be done by the project sponsor. An effective watering program (complete coverage twice daily) can reduce emissions by about 50%.

C. NOISE

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Setting

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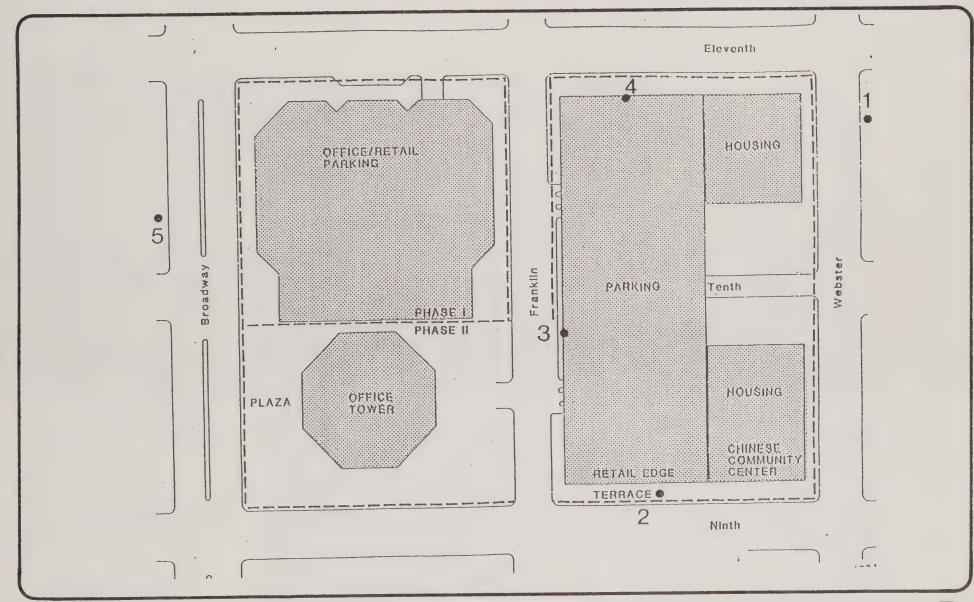
a. Present Noise Environment

The noise environment in the vicinity of the proposed project site is dominated by transportation noise during both day and night. The sources of greatest noise in the project environment are buses, trucks and automobiles on local streets. Jet aircraft from San Francisco International Airport, Alameda Naval Air Station and Oakland International Airport occasionally generate noticeable noise levels. Also gudible on the site is the noise generated by train whistles in the industrial area near Highway 17. Traffic on Highway 17 does not add measurably to the noise environment at the site.

Noise measurements were performed in the study area in 1979 by Charles M. Salter Associates as part of the noise impact report for the Oakland Convention Center/Hotel. These measurements were made on Broadway and 11th Streets. In addition, noise measurements were made at 3 more sites on Wednesday, December 16, 1981, for this report. The noise measurement locations are shown on Figure 28 and the results obtained during both sets of measurements are summarized in Table 17. Each noise measurement site was located at the building facade setback typical of the street in question. The noise levels thus represent the noise exposure of a typical building, existing or proposed, along the streets.

As part of the noise impact study done for the Oakland Convention Center/Hotel, a 24hour noise measurement was made on 10th Street between Washington and Clay. Using the hour-by-hour results of this 24-hour measurement as an indicator of the daily variation in noise levels in the area, a "day/night average noise level" has been developed for the streets surrounding the project site. The existing day/night averages at typical building setbacks along the streets surrounding the project site are: Broadway, Ldn 70 dB; 9th Street, Ldn 67dB, and Franklin Street, Ldn 68 dB.

These 24-hour day/night average values known as Ldn represent a single-number rating of the average daily noise environment. (Readers not familiar with the fundamentals and terminology of environmental acoustics are referred to Appendix A.) Ldn is used to evaluate the noise compatibility of existing and proposed land uses.





Noise Measurement Locations

Figure No.28

Table 17: Summary of Measured Noise Lavels

Site	Lacatian	late and Time of Measurement	1 4	111	L-41	E JOSE	194 1948	Comments.
	webster Street at back	######################################	74	63	63	3	वंदे	ो १५ इवश्यहर है शायबर
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4	litr itreet at back of sidewalk	Thurs. 4 5 79 3:34-3:49 pm	7.3	70	54	51	**	Desert to acto court
4	ec es	Thurs. 4/5/79 4:40-4:55 pm	77	70	65	61	67	3 buses, no auto count
5	Broadway at back of sidewalk	Thurs. 4/5/79 3:07-3:22 pm	79	72	65	62	69	3 buses, no auto count
5	ti ii	Thurs. 4/5/79 4:21-4:36 pm	77	72	66	62	68	1 bus, 2 trucks
5	66 66	Friday 4/6/79 3:08-3:23 pm	81	73	67	63	71	3 buses, 2 trucks

^{*}The sound level in dBA that was equaled or exceeded 1 percent of the time; L_{10} , L_{50} and L_{90} are the levels equaled or exceeded 10, 50 and 90 percent of the time, respectively.

**The L_{0} is the equivalent steady-state sound level that, in a stated period of time, would contain the same account energy as the time-varying sound level during the same time period.

b. Future Noise Environment without the Project

Traffic volumes are expected to increase in the area even if the Trans Pacific Centre were not developed. Using the traffic volumes developed in the transportation section of this EIR, the 1990 day/night average noise levels have been calculated along the street serving the site. Ldn levels are not expected to increase by 1 dB over present values. Without the project, then, 1990 Ldn levels would be: Broadway, 71 dB; 11th Street, 71 dB; Webster Street 68 dB; 9th Street 68 dB and Franklin Street, 69 dB.

2. Impacts

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This section describes the potential noise impacts associated with the development of the Trans Pacific Centre as proposed. Potential impacts fall into the following areas: the impact on existing adjacent land uses due to traffic generated by the project, the compatibility of the proposed uses with the future noise environment and the potential for noise impact on adjacent land uses during construction of the Centre.

· a. Traffic Noise Impacts

If the Trans Pacific Centre project is developed, the resulting increases in traffic would raise noise levels along nearby streets accordingly. Using the forecasts in the transportation section of this EIR, the potential increases and resulting Ldn levels along the streets adjacent to the project have been calculated. Table 18 shows the expected increase along each street and the resulting Ldn expected by the year 1990. It can be seen from the table that with one exception the amount of traffic added by the project would not be sufficient to increase the expected Ldn by more than 1 dB. The exception is along Franklin Street, where levels would be expected to increase by about 3 dB. An increase in traffic noise of 1 dB is not generally detectable by the human ear. A 3 dB increase in traffic noise would be just noticeable but would not be expected to generate adverse community response. Therefore, no traffic noise impacts are expected as a result of this project.

Table 18 Expected Increase in Ldn, and resulting 1990 Ldn, along the Streets Adjacent to the Project Site, if the Project is Approved

<u>Street</u>	Increase in Ldn due to Project-Generated Traffic	Resulting 1990 Ldn
Broadway (between 9th Street and 11th Street)	0 dB	71 dB
Webster Street (between 9th Street and 11th Street)	1 dB	69 dB
9th Street (between Broadway and Webster Street)	0 dB	68 dB
11th Street (between Broadway and Webster Street)	0 dB	71 dB
Franklin Street (between 9th Street and 11th Street	3 dB	72 dB

b. Compatibility of the Project with Future Noise Environment

The City of Oakland has not adopted specific criteria for evaluating compatibility of various uses and noise environments. It has adopted as policy, however, that exterior noise levels in each section of Oakland should be restricted or eventually reduced to levels which are compatible with the land uses located there. It is planned that specific noise level standards for each type of land use will be developed in future. The noise element of the Oakland Comprehensive Plan includes as an example of appropriate guidelines the Noise and Land Use Compatibility Guidelines (see Table 19) developed by the U.S. Department of Housing and Urban Development (HUD).

Since publication of the Oakland Noise Element, the State of California Office of Noise Control publishes guidelines for the preparation of the Noise Element of General Plans. These guidelines also contained suggestions on levels of noise compatible with various land uses. In light of the fact that HUD Standards contained in the Oakland Noise Element are similar to those recommended by the California State Office of Noise Control, this project has been evaluated using the HUD Guidelines.

In addition to the Land Use Compatibility Guidelines, the State of California has adopted minimum standards relating to the acceptable noise environment in new multifamily dwellings, including hotels and motels. These standards would be applicable to the new housing proposed in Phase II of the Trans Pacific Centre development. Contained in Title 25 of the California Administrative Code and commonly referred to as the Noise Insulation Standards these standards require that the noise level inside new multifamily dwellings must not exceed an Ldn 45 dB. Further, these standards require that an acoustical report must be prepared for all new multifamily housing projects developed in areas where the exterior Ldn exceeds 60 dB. This report, required before development plans can be approved, must show how the project will be designed to maintain an interior noise environment of an Ldn of 45 dB or less.

As noted in Table 18, the Ldn surrounding the project site would range from 68 dB on 9th Street to 72 dB on Franklin Street. The 68-story office tower would be considered a normally acceptable use in a noise environment of up to 75 dB Ldn, assuming that the building is of common building construction. The architects for this project anticipate that the building will be mechanically ventilated and will have fixed windows. This will

City of Oakland, "Noise Element," Oakland Comprehensive Plan.

TABLE 19

H.U.D. Acceptability Ranges of Exterior Noise Level By Land Use Category

				E NOIS		ELS	el	
	,	5 6	0 6	5 7	0 7	5 8		5
LAND USE	8	5 5	NR - Cor	nposite No	oise Ratin 1		13	30
Residential-Single Family, Duplex, Mobile Homes								
Residential- Multiple Family								
Transient Lodging								*0.18*2 * 8*2.4
School Classrooms, Libraries, Churches								
Hospitals, Nursing Homes								
Auditoriums, Concert Halls, Music Shells								
Sports Arenas, Outdoor Spectator Sports								
Playgrounds, Neighborhood Parks								
Golf Courses, Riding Stables, Water Recreation, Cemeteries								
Office Buildings, Personal, Business and Professional								
Commercial- Retail, Movie Theaters, Restaurants								\$ \$ \$ \$ \$ \$ \$ \$
Commercial- Wholesale, Some Retail, Industrial, Manufacturing, Utilities								
Manufacturing, Communications (Noise Sensitive)								SIS
Livestock Farming, Animal Breeding							6056 636 6056 636	
Agriculture (Except Livestock), Mining, Fishing								
Public Right-of-way								
Extensive Natural Recreation Areas								

CLEARLY ACCEPTABLE

The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference from aircraft noise. (Residential areas: both indoor and outdoor noise environments are pleasant.)

NORMALLY ACCEPTABLE

The noise exposure is great enough to be of some concern, but common building construction will make the indoor environment acceptable, even for sleeping quarters.

NORMALLY UNACCEPTABLE

The noise exposure is significantly more severe so that unusual and costly building construction is necessary to insure adequate performance of activities. (Residential areas: barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable.)

CLEARLY UNACCEPTABLE

The noise exposure is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive. (Residential areas: the outdoor environment would be intolerable for normal residential use.)

SOURCE: U.S. Department of Housing and Urban Development, Aircraft Noise Impact; Planning Guidelines for Local Agencies, by Wilsey & Ham and Bolt, Baranek and Newman, 1972.

reduce interior noise levels by at least 30 dB. As the maximum outdoor noise exposure of the tower would be an Ldn of about 72 dB, office uses would be appropriate in this noise environment.

Retail uses are also considered to be normally acceptable in an exterior noise environment of up to 75 dB Ldn. Retail uses are expected along 9th Street, where the Ldn would be about 68 dB, and along Franklin Street, where the Ldn would be about 72 dB. Again, these uses would be compatible with the future noise environment.

Multifamily housing is considered normally acceptable in an exterior noise environment of up to 65 dB Ldn and is considered "normally unacceptable" if the Ldn is between 65 and 75 dB. Above 75 dB, residential uses are considered clearly unacceptable. The noise exposure of the proposed housing towers would range from an Ldn of 68 dB to an Ldn of 71 dB and would therefore be considered normally unacceptable. The HUD guidelines indicate that at this level "the noise exposure is significantly more severe so that unusual and costly building construction is necessary to insure adequate performance of activities." Title 25 of the California Administrative Code requires that a report be prepared for the housing portion of the project prior to the issuance of the building permit showing how the interior noise environment would be maintained at the Ldn of 45 dB or less. Some methods for achieving this are described under Mitigation, below.

The Chinese Cultural Center that would be located at the corner of 9th Street and Webster would be exposed to exterior noise levels of an Ldn of 68 to 69 dB. There is no specific category in the HUD guidelines for this type of center, but it can be anticipated that this will be a place where there would be lectures and activities typical of schools, libraries or churches. These uses are considered normally acceptable in an exterior Ldn of up to 65 dB and normally unacceptable in noise environments with Ldn ranging from 65 to 75 dB. Basically, this means that if the Chinese Cultural Center were developed such that it would rely on open windows for ventilation, it would not be compatible with the exterior noise environment. However, if the building were constructed to be mechanically ventilated and the windows could remain closed, it would be compatible with this exterior noise environment.

c. Construction Impacts

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2 years, can be divided into 3 basic phases: Foundation excavation, foundation construction and building erection. Due to the preliminary nature of project plans, it is not known at this time exactly what construction techniques or equipment would be used during the various phases. The following analysis assumes typical equipment and construction techniques.

For the purposes of noise impact evaluation, construction which would take approximately

The impact of construction noise is best evaluated in terms of the effect that the noise would have on normal human activities in the vicinity. The land uses surrounding the project site are primarily residential in nature, either apartments or hotels. There are also some office and retail uses. Based on annoyance and activity interference criteria, construction noise would impact residents in the adjacent areas in the following ways. Construction noise levels between 50 and 60 dBA would potentially interfere with sleep and could be expected to annoy some of the adjacent residences. Noise levels between 60 and 70 dBA would be annoying and distracting to the majority of residents, would interfere with conversation and television and radio listening. At levels above 70 dBA, it would be virtually impossible to sleep, difficult to concentrate, difficult to converse, and general dissatisfaction from residents would be expected.

Most of the residential units in the vicinity of the project site are older and rely on open windows for ventilation. Open windows reduce incoming sound levels by about 15 dBA. In other words, a sound measured at 75 dBA outside of the unit would be measured at a level of about 60 dBA inside. Closed windows reduce exterior noise by about 25 dBA.

During excavation, front-end loaders, bulldozers and trucks would be the noisiest pieces of equipment expected on site. If equipped with adequate mufflers, these pieces of equipment would generate sound levels ranging from 75 to 85 dBA measured at a distance of 50 feet from the noise source. This is typical of the sound generated by the noisier vehicles on adjacent residential streets. Since the construction equipment would be located farther from existing residences than traffic on local streets, the sound levels generated during this phase would be below the noise generated by local traffic and no significant change in the noise environment would be anticipated.

 After the site is excavated, foundation construction would begin. It is anticipated that a pile foundation would be required for the buildings on the project site. Because of the presence of the BART tube, the developer anticipates that the holes for the tower piles would be predrilled. The piles would then be placed in the holes and driven home. Pile drivers, the noisiest pieces of equipment that would be used during construction of this project, emit sound levels of about 105 dBA measured at a distance of 50 feet. It is anticipated that pile-driving would take place as near at 100 feet from the nearest adjacent residence. Levels outside of these residences would therefore be about 99 dBA. Allowing for the 15 dBA reduction through open windows, interior noise level should reach 84 dBA. If the windows were closed, additional 10 dBA reduction would be achieved resulting in maximum sound levels of 74 dBA during pile driving. As noted above, at a level of 84 dBA, sleep would be essentially impossible in the adjacent residences and the City could expect a significant number of complaints from these people. If the windows were closed which would probably be the case due to high noise levels that would otherwise occur, the resulting sound level of 74 dBA would still be expected to interfere with normal indoor activities and complaints could be expected.

During building erection, the noisiest activity would be the use of impact wrenches to fasten metal decking to the steel frame of the 68-story tower. The sound of this activity has been measured at about 95 dBA at a distance of 50 feet. During the times that the wrenches are used, noise levels would be expected to range from 85 dBA outside of the nearest residences (the City Center Towers on 9th Street). The sound level inside these units with the windows open would be approximately 70 dBA and with the windows closed would be approximately 60 dBA. With the windows either open or closed, sleep would be difficult to impossible at a level of 70 dBA, and a considerable number of complaints could be expected. At a level of 60 dBA, some interference with speech and television watching could be expected sporadically, but in general the sound level would not result in excessive complaints. During other activities of the building erection phase, sound levels would be at or below the levels generated by existing traffic and no significant impacts would be expected.

3. Mitigation

a. Proposed Housing Noise Mitigation

As described in the discussion of compatibility of the proposed land uses with the future noise environment, the residential portion of the project would be exposed to exterior noise levels ranging from an Ldn of 68 dB to an Ldn of 71 dB. The project could be made compatible with the noise environment if the residential units were developed so that the interior noise level could be maintained at an Ldn of 45 dB or less. This would require a building facade which would reduce exterior noise levels by from 23 to 26 dB and could be achieved only if the windows in the residential units facing the streets were kept closed. Therefore, at a minimum, the units facing the street must be mechanically ventilated. In addition to mechanical ventilation, it is possible that acoustically-rated sound-isolating glass installed in low-infiltration-rate frames would be required. The details would have to be worked out prior to the issuance of the building permit for this project.

b. Construction Noise Mitigation

The following measures could be taken to minimize the impact of on-site construction noise on adjacent land uses.

- During pile-driving, predrill the holes for all piles to minimize the number of blows required to drive the piles. This would also keep the source of the sound near the ground, which would minimize propagation over great distances.
- To further mitigate the noise of pile-driving, portable shrouds could be erected around the driver. This would afford up to 15 dBA of shielding but is a relative expensive technique.
- Locate fixed equipment such as concrete pumpers, compressors, etc., away from existing nearby land uses.
- Limit the noise output of construction equipment (except impact tools) to 80 dBA at 100 feet. A level of 80 dBA at 100 feet is equivalent to existing maximum noise levels in the study area. Use of impact tools should be limited to the greatest extent feasible.

- All equipment, including impact tools, should be fitted with mufflers which are in good condition.
- If the safety barrier around the construction site were made airtight, it would also serve as a noise barrier. This would be particularly effective for shielding pedestrians and the lower floors of nearby buildings from ground-based noise sources.
- All trucks used in construction should be well muffled and well maintained.
- To reduce the impact of construction vehicles on nearby residences, trucks should not caravan to the site through residential neighborhoods before 7 A.M.

D. LAND USE AND RELATIONSHIP TO PLANS

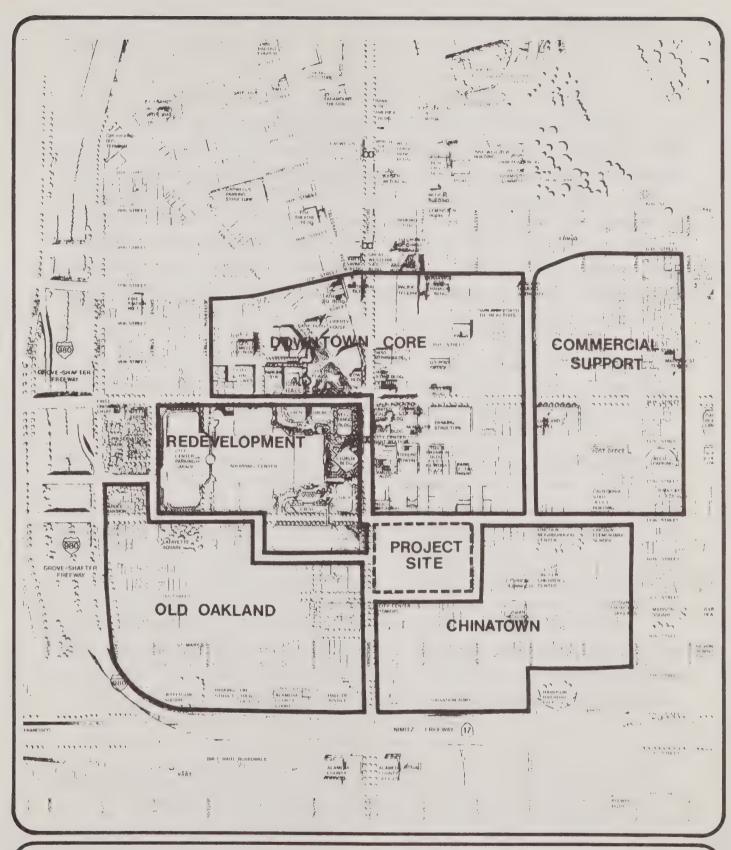
- 1. Setting
- a. Land Use

<u>Downtown Oakland</u>. Over a century of land development and succession have produced a pattern of fairly distinct land uses in Oakland's traditional Central Business District. The Trans Pacific Centre site borders on 5 distinguishable land use areas (see Figure 29):

The <u>Downtown Core</u>, centering on the corner of 14th and Broadway, has been the traditional office building center for the City since its development in the early 20th century. A concentration of ornate mid-rise brick buildings and the landmark City Hall and Tribune Tower buildings reflect the era of 1910 to 1930, when it served as the commercial, civic, transportation and entertainment center of the East Bay. The area is now recovering from a decline dating from about 1930, when office development began to shift to the new "northern CBD" and street-level retail space in the downtown core was invaded by fast food restaurants and adult theaters mixed among the banks, jewelers and clothing stores. The present revival of the area is evident in the restoration of the 1100 Broadway building and a general increase in office rental rates.

West of the downtown core is a <u>Commercial Support</u> district that features generally less intense business support services that require less expensive rental rates. Building is generally low-rise in scale and uses include office supply and service outlets, apartment buildings, medical offices and title companies. South of the downtown core and commercial support areas, Broadway is the dividing line between <u>Chinatown</u> and <u>Old Oakland</u>, two ethnic neighborhoods dating from the turn of the century.

<u>Chinatown</u> survives as a busy residential and commercial district despite its low-rise character. It is characterized by continuous facades of 2-story brick or wood buildings. At street level numerous restaurants are mixed in with curio ships, import shops and local-serving retail services such as grocery stores and repair shops. The upper levels in many places are multi-family housing. The area is the cultural center for many of the Bay Area's recent immigrants from Indochina as well as the traditional cultural center for East Bay Chinese.



Land Use in Downtown Oakland



Figure No. 29

West of Broadway few signs remain of <u>Old Oakland's</u> recent history as the most prominent Mexican-American urban community in the East Bay. Many of the Victorian-era apartment and single-family homes have succumbed to fires and condemnation, and most of the southern side of 7th Street has been replaced by County Court and City Police structures in the past decade. The Clay Street corridor is now concentrated with many alcoholic missions and halfway houses, while the transient hotels of Victorian Row have been shut down in anticipation of the redevelopment of those commercial structures. Other significant uses include furniture stores, bailbondsmen along 7th Street, pawnshops on Broadway, and 2 large-volume retailers that perform an important function in providing low-cost food and clothing outlets for West Oakland's low-income neighborhoods: Housewives's Market and Swann's Department Store. Many lots are vacant or used for parking; housing that remains on Grove and Castro Streets is split between run-down units and a corridor of recently rehabilitated houses.

The Redevelopment Area actually includes 2 of 4 downtown redevelopment projects that split the old downtown commercial core roughly in half. Across Broadway from the proposed Trans Pacific Centre, construction is now underway on a 500-room Hyatt Hotel and a 118,000-square foot municipal Convention Center. The City Center project, which caused the clearance of 12 blocks of the old core, is now emerging as a series of one-block-apiece office buildings developing incrementally rather than the massive superblock retail and office concept originally proposed. Existing structures include the 24-story Clorox headquarters and the 10-story Wells Fargo building, while construction is underway on a third office building on 14th Street. While serving functions similar to those of the older office buildings of the area, the redevelopment area projects are set back from Broadway and isolated, in contrast to the solid wall of older facades across the street.

The other two are the proposed Trans Pacific project and the Victorian Row rehabilitation, which is actually a preservation of a portion of Old Oakland.

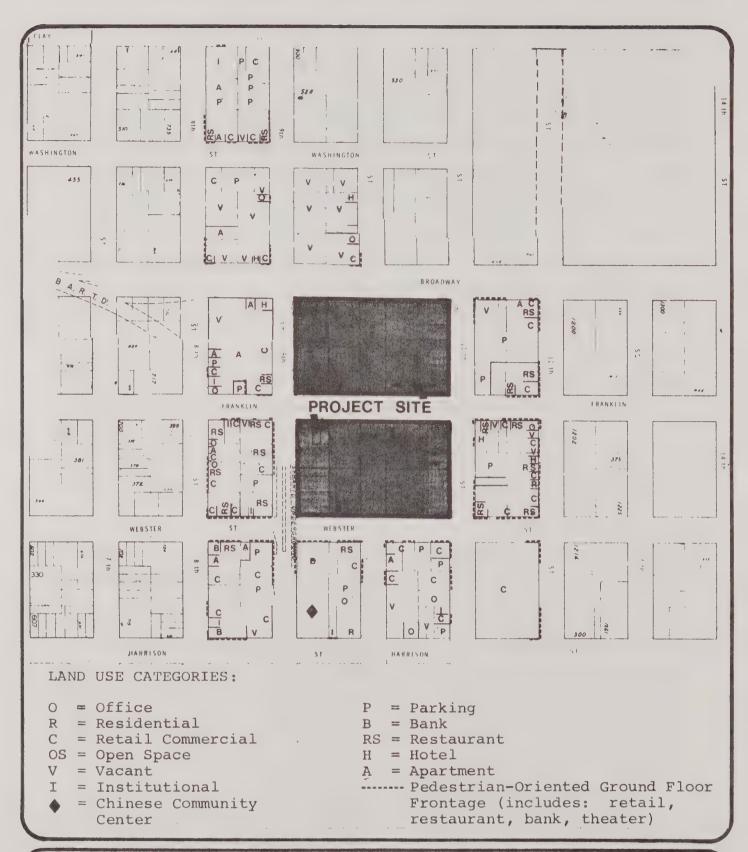
Land Use in the Immediate Project Vicinity. The blocks bordering the project site are characteristic of their respective areas described above (see Figure 30). Immediately north of the site the elaborate 1100 Broadway building, emblematic of the older downtown business district, is undergoing renovation that will increase its rental value as office space. The other northern blocks along 11th Street are occupied by smaller office buildings and several parking lots. East of the project site begins some of the most active street activity found downtown, in the restaurant and retail stores frontages of Chinatown. On 9th Street immediately south of the project site is the 15-story, 382-unit City Center Towers residential condominium building. The Tower units, which sold slowly in the \$30,000 to \$40,000 range a few years ago, are now reselling for \$80,000 to \$120,000.

West of Broadway a number of architecturally distinguished commercial buildings from the 1870s have been preserved in the Victorian Row and are scheduled for rehabilitation. Most of these buildings have been vacated except for several pawn shops on Broadway. The 4 blocks north of 10th Street and the 4 blocks west of 10th Street are dedicated to redevelopment projects. They Hyatt Regency Hotel and Convention Center are now under construction on Broadway between 10th and 11th Streets. At least 2 more office buildings will be built on the City Center site between 11th and 14th Streets.

<u>Present Land Use on the Project Site</u>. The 4-block site is in transition, as most of the low-rise brick and wooden buildings that once were located there have been cleared for redevelopment. For an aerial view of the area as it currently exists see Figure 31.

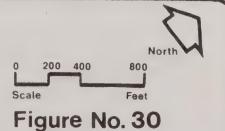
The northwestern block is the site of the Trans Pacific Centre Phase I building, now under construction and scheduled for leasing in mid-1982. The Phase I building is 6 stories high and will include 241,000 square feet of office space, 79,000 square feet of retail space and 350 parking spaces. The portion of Phase I located on the vacated block of 10th Street between Franklin and Broadway will feature a "Food Street" arcade of restaurants accessible from Broadway and Franklin.

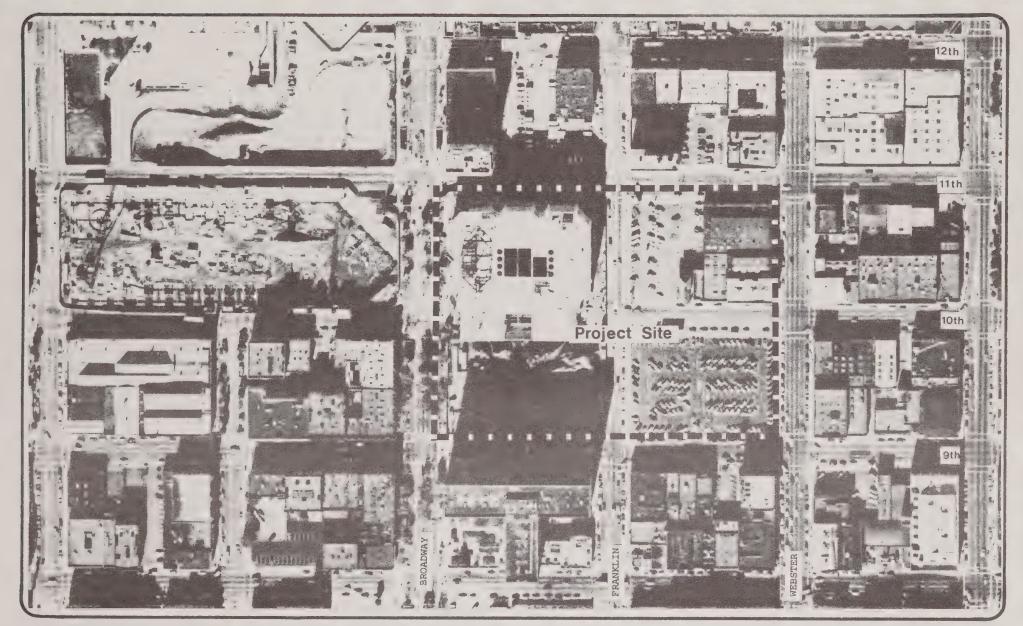
The southeastern and southwestern blocks have been cleared to grade and are being used as a construction staging area for Phase I and a surface parking lot, respectively. There is a series of 2-story brick buildings on the Webster Street frontage of the northeastern block. As of 1981 3 of these were still occupied by an auto glass shop, a fortune-cookie bakery and a warehouse/office for a construction service firm serving the Phase I construction project.



Land Use in Immediate Project Vicinity

SOURCE: EIP Corp.





Aerial Photo of Project Area

Figure No. 31

b. City Goals & Policies

The Oakland Comprehensive Plan contains a number of goals and policies which relate to this project:

1. Goals

- (a) "To develop a healthy economy and reduce hard-core unemployment"
- (b) "To advance Oakland's position as a regional center of commerce, industry, recreation, and culture"
- (c) "To protect and improve Oakland's physical environment"
- (d) "To strengthen the city's nonresidential tax base"

2. Policies

- (a) The visual quality of all commercial and industrial areas should be vastly improved. Open space, planting, and similar amenities should be added to make them more desirable shopping and working environments. (51836)
- (b) Particular attention should be given to the transition between residential uses and industrial and commercial uses. Devices such as landscape treatment and special development controls should be employed to ameliorate the impact of conflicting activities on one another. (51836)
- (c) Special consideration should be given to the visual and functional impact of proposed developments, both private and public, upon the Lake Merritt district and other areas of unique historical or civic importance. (52735)
- (d) The City will pursue a continuing, comprehensive process of "urban design" to seize opportunities as they occur and creatively direct physical changes toward a more efficient, more livable, more beautiful, and more dramatic urban environment. (51836)
- (e) The Oakland Central District should be emphasized and strengthened as the East Bay's dominant commercial and civic center. Within this area, the high-intensity retail-and-office Core along Broadway from 11th Street to Grand Avenue should be clearly dominant, but the Central District should also include a variety of specialized, complementary commercial, civic, and recreational areas, as well as close in apartment districts. (51836).
- (f) Improved accessibility and adequate parking and loading facilities should be developed in all commercial areas. (52735)

City of Oakland, "Oakland Policy Plan; A Component of the Comprehensive Plan," 1972; as amended through July 1976. Numbers in parentheses refer to the City Council resolution in which the particular goal and policy was adopted.

- (g) The height and types of development in the general vicinity of airports should be compatible with the requirements of safe air navigation and the limitation of risks from crashes. (58889)
- (h) The highest floor-area ratio (total floor area on a lot, divided by the lot area) of commercial development should be in the Central District Core.

The above goals and policies reflect Oakland's recent planning efforts to improve its physical environment and economic base, and to reduce unemployment.

The "Land Use Element" of the Comprehensive Plan contains policies designed to encourage the development of a high intensity business core in the project area.

"Construction at very high floor-area ratios is welcome in the (Central District) Core, one reason being that area's prime accessibility by rapid transit and buses. Development at somewhat lower, but still fairly high, densities is also proper in certain nearby parts of the Central District."

To this end, the Central District Core has been designated for "unlimited floor-area ratio" extending along Broadway from 11th Street north to Grand Avenue. The district thus includes 2 business office areas of about equal size: the South CBD, which includes the project site, and the North CBD, which centers at about 19th and Franklin Streets. The zone includes the lower-rise department store district between the two CBD centers, but City policy is to encourage development of that area as a low-rise retail center by encouraging high-rise development at the existing concentrations of office space.

c. Central District Urban Renewal Plan

Thd project is one of 4 area projects of the Central District Urban Renewal Plan; the 4-block area is designated the Chinatown Project (see Figure 29). The objectives of the Urban Renewal Plan are to eliminate urban blight within the Plan area, through implementation of the concepts described in the Oakland Central District Plan as adopted by the Oakland City Council in 1966. Specific objectives of the plan include:

"A strengthening of the Project Area's existing role as an important office center for administrative, financial, business service and governmental activities.

"Revitalization and strengthening of the Oakland Central District's historical role as the major regional retail center for the Metropolitan Oakland Area.

City of Oakland, Land Use Element" of the Oakland Comprehensive Plan, April 29 1980, page 48.

"Establishing of the Project Area as an important cultural entertainment center.

"Re-establishment of residential areas for all economic levels within specific portions of the Project Area.

"Provisions of employment and other economic benefits to disadvantaged persons living within or near the Project Area.

"Restoration of historically significant structures within the Project Area.

"Improved environmental design within the Project Area, including creation of a definite sense of place, clear gateways, emphatic focal points and physical design which expresses and respects the special nature of each sub-area."

The plan also specifies Design Standards for the Chintown project:2

- I. The design and development of the Area should ensure that Chinatown will be an integral part of the downtown and that it will encourage the revitalization of adjacent areas.
- 2. The Area should be designed to accommodate pedestrian use and to provide a continuity of pedestrian movement within the area and surrounding commercial areas.
- 3. Access of automobiles to commercial establishments and parking accommodations should respect major pedestrian corridors.
- 4. Automobile parking should be enclosed and located to minimize the utilization of ground floor street frontage for parking.
- 5. Convenient pedestrian access Franklin Street from the buildings fronting Broadway should be provided.

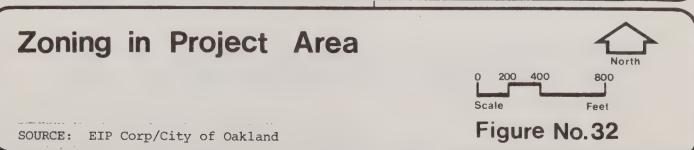
d. Zoning

The zoning in the project area reflects the strategy of developing a high-rise corridor along Broadway with densities falling away in stages moving away from the Downtown Business Core (see Figure 32). The Oakland Planning Code Zoning Regulations designate the site for C-55, Central Core Commercial, along the 11th Street frontages to a depth of 100 feet and C-51, Central Business Service Commercial, for the majority of the remainder of the site. The Broadway frontage is within the S-8 Design Review District.

Oakland Redevelopment Agency, <u>Central District Urban Renewal Plan</u>, June 12, 1979, page 3.

²lbid, page 30.





The C-55 zone embraces the downtown central business district and is intended to "preserve and enhance a very high-intensity regional center of employment, shopping, culture and recreation." Permitted use classifications for this district include residential, civic, commercial and custom manufacturing activities. There are no height or floor-area limitations on most uses in the C-55 zone, except where the site borders R-50 or lower-density residential zones. There are, however, density and floor-area limits to C-55 zone lots containing residential facilities. These lots are subject to the same limitations as lots in R-90 zones: a floor-area ratio of 7.0 and a minimum of 150 square feet of site area.

The C-51 zone is intended to encourage areas of medium-intensity office and commercial service development immediately adjacent to the Central Core Commercial Zone. The permitted uses are the same as in the C-55 zone; however, the 7.0 floor area ratio applies throughout the zone for all uses. This 7.0 floor area ratio may be increased by two provisions for density bonuses applicable to the project: a 10% bonus for corner lot location, and a 15% bonus for provision of plaza space at the ratio of I square foot of plaza for each 7 additional square feet of floor area. In addition, residential uses within the zone require 150 square feet of site area for each residential unit, as in the R-90 zone.

The S-8 Urban Street Combining Zone, is intended to "create, preserve and enhance compact, attractive and clearly defined street and plaza spaces and to assure ground-level continuity of retail and consumer services along key shopping frontages," such as Broadway. The designation permits only the following activities to be located on the ground floor within the first 20 feet of S-8 street frontages: "essential service" civic activities, food sales and service, convenience sales and service, medical service, general retail sales, general personal service, consultative and financial service, consumer laundry and repair service and retail business supply. The S-8 code also contains design provisions relating to signs. It permits conditional uses providing that they contribute to the compact, urban character of the area and do not impair a general continuous wall of building facades. Projects in the S-8 district are subject to a design review procedure which may involve a public hearing before the Planning Commission.²

City of Oakland, Oakland Planning Commission Zoning Regulations, Section 4842.

²lbid., Section 9303.

As a planned unit development, the project is subject to the regulations and procedures applicable to PUD's, as set forth in Sections 7800-7813 and 9400-94111 of the Oakland Planning Commission Zoning Regulations. A PUD application is required for the proposed project since it differs significantly for the project previously proposed for the Chinatown project of the Oakland Central District Urban Renewal Area. The PUD application may be approved by the Oakland City Planning Commission based on the City Engineer's Report and certification of the Environmental Impact Report.

As a Planned Unit Development the project may be planned and the zoning allowances calculated without reference to lot or block lines. In addition, the project is entitled to a maximum 25% density bonus on overall number of living units in residential facilities and on the maximum overall floor-area ratio. Together with the corner lot and plaza bonuses cited earlier, this raises the maximum permitted floor-area ratio to 10.5.

2. Impacts

a. Zoning

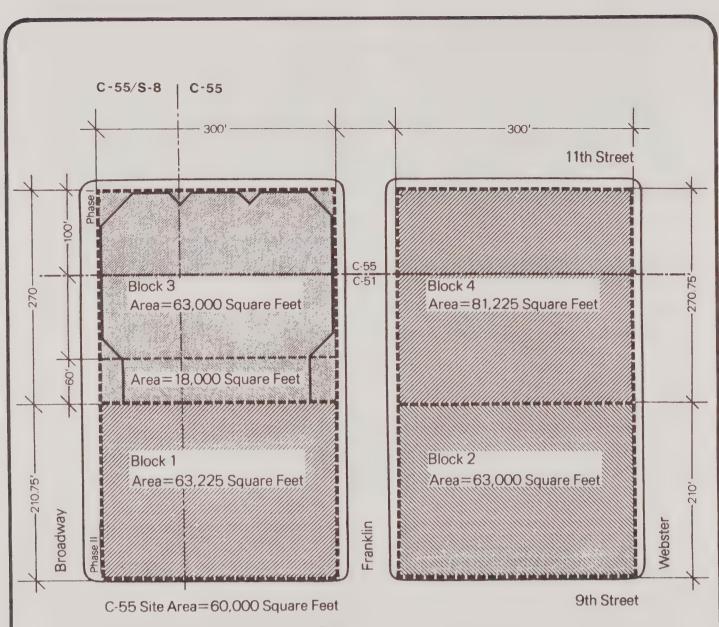
The 4-block Trans Pacific Centre would comprise 288,450 square feet of area, including the vacated portion of 10th Street between Broadway and Webster (see Figure 33). Of this area the Phase I project includes the northeastern block (Block 3) and the 10th Street closure between Broadway and Franklin for a total of 81,000 square feet. The proposed Phase II would include a total of 207,450 square feet on Blocks 1, 2, 4 and the vacated portion of 10th Street between Franklin and Webster. For discussion of zoning impacts, all 4 blocks of Phases I and II are treated as a whole.

The site falls into two zoning districts: 60,000 square feet (20.8%) is in a C-55 district, and the remaining 228,450 square feet (79.2%) is in a C-51 district. The Broadway frontage of the project is also within the S-8 Urban Street Combining Zone.

The proposed project would meet the required floor-area and residential site area requirements for the C-55 and C-51 districts. The entire 4 blocks of the Planned Unit Development are used in calculating floor areas. The 60,000 square feet within the C-55 district would accommodate 200 housing units and 171,400 square feet of Phase I nonresidential space planned for that part of the site (see Figure 33 and Table 20).

TCity of Oakland, Oakland Planning Commission Zoning Regulations, Section 9303.

^{2&}lt;sub>lbid</sub>.



C-55 Site Area=60,000 Square Feet
C-51 Site Area=228,450 Square Feet
Total Site Area=288,450 Square Feet

Project Site Zoning

SOURCE: Skidmore, Owings & Merrill

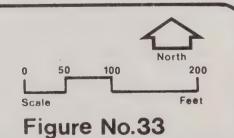


	TABLE 20	
FLO	OR AREA CALCULATIONS FOR	R THE C-51 SITE AREA
F.A.R. Calculations	<u> </u>	Area (sq. ft.)
Site Area in C-51	Pistrict	228,450
Site Area for Housi	ng l	-30,000
Site Area for Non-F	Residential Uses	198,450
Floor Area Ratio (F	10.5	
Non-Residential Sit	2,083,725	
Total Non-Resident	ial Development Proposed Within	n C-51 Site Area
Phase I ³		171,400
Phase II		1,605,872
Office Tower Retail and Civid	e Areas	(1,555,872) (50,000)
TOTAL		1,777,272
150 square feet of	ed 400 housing units would lie visite area for each unit proposed R plus the following FAR bonuse 10% 15% 25%	, or 150 x 200 = 30,000
³ Half of the Phase 171,400.	e I project's 342,800 square feet	would lie within C-51, or 342

Within the C-51 district, allocation of 30,000 square feet of site area would be required to meet the residential site area requirement. The allowable nonresidential floor area is calculated by multiplying the remaining site area by the applicable floor-area ratio (FAR). In this case the FAR is 10.5, including the base FAR of 7.0 plus a 10% bonus for corner lot location, a 15% bonus for providing open space, and a 25% PUD bonus. Using this formula, the allowable non-residential space is 2,083,725 square feet, while the proposed non-residential floor area is 1,777,272 square feet.

Based on the proposed non-residential program of 1,777,272 square feet, the project could accommodate up to 794 dwelling units, or 394 units in excess of the number proposed. The 60,000 square foot site area in the C-55 district could accommodate up to 400 units at 1 unit per 150 square feet of site area; only 200 are proposed. Similarly, 394 units could be constructed in the C-51 district, or 194 more than proposed. This calculation is based on the site area unused for residential or non-residential purposes: 29,186 square feet.

The project's compliance with the provisions of the S-8 Urban Street Combining zone is less certain. Pedestrian-oriented commercial activities in the ground-floor frontages on broadway, as directed by the S-8 designation, have not been included in the current project design. This is largely due to much of the street-level area being taken up by the ground-floor lobby. The project does propose, however, to incorporate a plaza area along Broadway that should represent a significant pedestrian amenity.

b. Conformance with City Goals, Policies and Urban Renewal Plan

The proposed use of the project site for high-intensity office and residential structures would comply with the general objectives of the Comprehensive Plan and with statements in the Land Use Plan encouraging high density office concentrations in the Central District Core. The residential component complies with the stated purpose of the applicable R-90 regulations, which are intended to "create, preserve and enhance areas for highrise apartment living at very high densities in desirable setting, . . . typically appropriate to areas within , or in close proximity to, the Oakland Central District."

City of Oakland, Oakland Planning Commission Zoning Regulations, Section 3903.

revitalization, job development and neighborhood preservation. The project would contribute 1.5 million square feet of new office space that would reinforce the revitalization of the downtown area, since leasing of the offices is expected to create 6,000 office-worker jobs. The project would provide 400 new housing units without removing any existing housing.

The proposed project also supports the policy goals of encouraging economic

The proposed land uses are specifically compatible with primary uses designated in the Central District Urban Renewal Plan, which include:

"Residential Uses: Living units for rental or sale with or without kitchen, including low- and moderate-income housing.

"General Retail Sales Uses: The retail sale or rental from the premises, primarily for personal or household use, of goods consisting primarily of items other than food sales and services or convenience sales and services; the sale of motor vehicles and construction materials (except for paint, fixtures and hardware) are excluded.

"<u>Food Sales and Service Uses</u>: The retail sale from the premises of food or beverages for home consumption and the retail sale of prepared food or beverages for on-premises consumption.

"Convenience Sales and Service Uses: The retail sale from the premises of drugs and other frequently needed small personal convenience items such as toiletries, tobacco and magazines; and the provision of personal convenience services which are typically needed frequently or recurrently, such as barber and beauty care. Shoe shining and the operation of self-service laundromats and laundry or dry cleaning pick-up stations are included, but other apparel cleaning and repair services are excluded (see, however, Secondary Uses).

"General Personal Service Uses: The provision to individuals of informational, instructional, amusement and similar services of a non-professional nature which are not typically needed frequently; typical examples are a driving school, arcade, introduction service or travel bureau.

"Consultative and Financial Service Uses: The provision of financial, insurance and real estate brokerage services and the provision of advice, designs, information or consultation (other than medical or research) of a professional nature.

"<u>Medical Service Uses</u>: The private offices of physicians, dentists and other medical practitioners and medical testing and analysis services.

"Commercial and Civic Assembly Uses: The provision of religious, cultural, entertainment, education, or athletic services to assembled groups of spectators or participants.

"Non Assembly Commercial and Cultural Uses: Museums, art galleries, libraries, observations, trade center and radio and television studios.

"Transient Habitation: The provision of lodging services to transient guests largely or predominately on a less-than-weekly basis.

"<u>Essential Service Uses</u>: Electric, gas and telephone distribution lines and water, storm drainage and sewer lines, with incidental appurtenance thereto; and public polling places.

"Community Service Uses: Child-care and day-care uses; senior citizen centers; churches, temples, synagogues and shrines; student centers, health clinic and hospitals; clubs, lodges, meeting halls and recreation centers; temporary festivals; public, parochial and private schools; and park and recreation space and all facilities accessory thereto."

The proposed project provides adequate on-site parking as directed by the Comprehensive Plan, although it does not satisfy 100% of anticipated parking demand on-site. Parking standards for the site are set in the Chintown project area guidelines of the Central District Urban Renewal Plan as one spee per 21,100 square feet of non-residential area and one space per residential unit.² Using these guidelines the project is required to provide a total of 1,803 on-site parking spaces:

Non-residential:
$$1,542,872 + 1,100 = 1,403$$

Residential: $400 + 1 = 400$
 $1,803$

The proposed 2,000 on-site parking spaces exceed this requirement. Provision of significantly more parking spaces would contradict City goals of encouraging mass transit use at a downtown site with excellent transit service and a central location in required transit networks.

The dedication of Franklin Street ground-level street frontages to parking and truck movments, and the closing of 10th Street together do not conform to Design Standards 2 and 3 of the Chinatown Urban Renewal Guidelines, which call for continuity of pedestrian movment between Chinatown and surrounding commercial areas. These impacts are to some extent mitigated by provision of a pedestrian bridge across Franklin Street. The bridge responds to Design Standard 5, which encourages convenient pedestrian access across Franklin Street.

Oakland Redevelopment Agency, <u>Central District Urban Renewal Plan</u>, June 12, 1979, Section 502.A., Land Use Controls.

²lbid.

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The Comprehensive Plan policy regarding the height and types of development in the vicinity of airports and their compatibility with safe air navigation requirements warrants a discussion of concerns raised by the Department of the Navy and the Alameda County Planning Department.

The Alameda Naval Air Station, has expressed concern regarding the potential of the proposed 68 story tower to protrude significantly into the air space of the approach corridor to Runway 25. If constructed as proposed, the building would curtail the Navy's ability to use Runway 25 during instrument meteorological conditions. The Federal Aviation Administration (FAA) is charged by law with the authority to assure safe air The FAA will change flight procedures to eliminate any hazardous procedures, which may result in a reduction of the number of flights using Runway 25 during instrument conditions.

In compliance with federal law, the project sponsor has filed a Notice of Proposed Construction or Alteration with the FAA which specifies the intent to construct a 1000 foot tall building in Oakland's Central Business District. The FAA was also sent a Notice of Preparation of an Environmental Impact Report for the Trans Pacific Centre. As of February 8, 1982, the FAA had not yet responded to either communication; however, if they do respond to the Draft EIR, their comments will be included in the Final EIR.

The Alameda County Planning Department recommended that the EIR include policies from the Airport Land Use Commission Plan and the role of the Airport Land Use Commission.2

The Policy Plan proposes noise and safety zones around airports, recommends height restrictions, and establishes "general project referral areas" immediately around the major airports in the County. (Policy Plan, page 2). The Policy Plan states that the "ALUC should be notified of any proposed project within the general project referral areas... which may be inconsistent with the Policy Plan." (Policy Plan, page 10). The general referral areas for Oakland Airport and the Alameda Naval Air Station are found on pages 22 and 28, respectively, of the Policy Plan. Trans Pacific Centre does not fall within either of those areas.

N. D. Campbell, Commanding Officer, U.S. Navy, written communication, January 6, 1982.

²Betty Croly, Assistant Planning Director, Alameda County Planning Department, written communication, January 21, 1982.

The Policy Plan further states that "Public agencies considering any proposed projects within the general referral area are asked to examine the projects for consistency with the Policy Plan. Potentially incompatible projects should be referred to the Commission." (page 14) Finally, the Policy Plan does not purport to impose height restrictions on areas outside of the general referral area, but it does recommend that zoning authorities adopt the FAA height restrictions. (Policy Plan, page 2)

Trans Pacific Centre is not within the Policy Plan's proposed noise and safety zones, and is not within the general referral area, and therefore the ALUC does not have planning jurisdiction over Trans Pacific Centre. All questions with regard to the height of the project are referred to the FAA in accordance with applicable law.

c. Impacts on Surrounding Land Uses

In combination with other large office developments nearby the proposed project has the potential for creating a much more active and viable office district downtown. This trend could have the effect of raising local rents and land values, reversing the downward trend prevalent through the mid-1970s. This price pressure could force marginally profitable land uses out of the area and encourage both new construction on vacant land and replacement of low-rise structures. Structurally sound and architecturally valuable midrise structures could benefit, at least in the short run, if their rehabilitation proves profitable, as in the case of the 1100 Broadway building.

Nearby retail businesses oriented to office-worker markets could benefit by the large increase in lunchtime pedestrian traffic. Chinatown restaurants and downtown department stores might both be expected to benefit by this trade. Similarly, the office support services district to the northeast of the project could benefit from increased demand for ancillary services such as printing and office machines sales and services.

Chinatown and Old Oakland are the areas most likely to be severely impacted by construction of the proposed project. Approximately half of each neighborhood is zoned C-51 or C-55 and could offer attractive opportunities for further office development in the future. Old Oakland is much more vulnerable to (and appropriate for) such

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 development, as a large number of lots are vacant or contain condemned buildings. The 2 large retail outlets serving West Oakland (Housewive's Market and Swann's Department Store) could potentially be displaced by these increased land values.

Chinatown is less vulnerable to demolition and replacement of structures since its retail space is more effectively used at present and has higher rentals than similar space in Old Oakland. However, a number of neighborhood-serving businesses could be potentially displaced by uses oriented to the office lunchtime trade and to higher-income residents of the 400 proposed units.

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1.

VISUAL QUALITY AND URBAN DESIGN

Setting

E.

The 3 city blocks encompassing the proposed site are flat and contain no distinct topographic features (Figure 34). The 6-story steel and concrete frame Phase I Trans Pacific office building is under construction adjacent to the site at Broadway and 11th Street (Figure 35). The modern 15-story grey and concrete and glass City Center residence tower faces the site from 9th Street between Broadway and Franklin Streets. This building is massive, but its apparent size is visually diminished by the restrained articulation of its balconies and windows. The lower floor is occupied by shops and services catering to the local Asian community. Dark-beige metal windows and panels used on the residences above extend down to the ground-floor level and unify the facade, on which retail tenants place signs and display their wares (Figure 36).

The proposed project site is surrounded by 5 distinct districts, each with its own urban design and functional characteristics. To the southeast is the active Chinatown business and residential area bounded by Broadway, Jackson, 7th and 11th Streets. This area has high numbers of pedestrians and local vehicular traffic. Buildings are 2 and 3 stories high and present a fine-grained appearance. A mixed commercial support district lies to the northeast. Low-rise structures here are larger in bulk than those found in Chinatown. These buildings have an industrial appearance. The district runs north of 11th Street and east of Webster Street. North of the proposed site is Oakland's business and government downtown core with mid-rise and high-rise buildings concentrated at Broadway and 14th Streets.

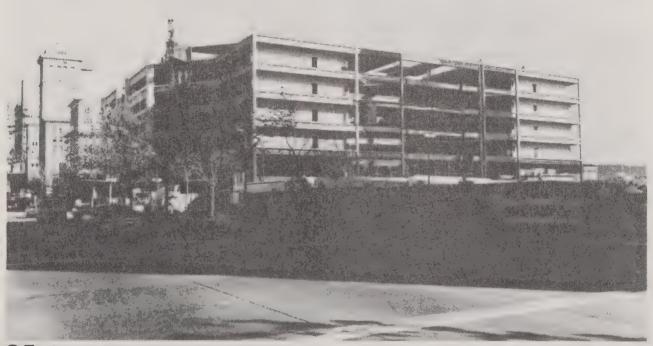
Across Broadway to the northwest are the large-scale, multiblock City Center and Convention Center Development projects, now under construction.

The 2 and 3-story Victorian Row project being rehabilitated by the Redevelopment Agency stands just west of the proposed site and adjacent to a large, nondescript, underutilized area of low-rise structures. This area extends west from Washington Street to the Grove-Shafter Freeway and south to the Nimitz Freeway.

These districts are described in detail in the Land Use section of this report. See Figure 29 for map of districts.



34 View of project site from Webster and 9th Street intersection. Clorox Building in background.



35 View of project site looking north on Broadway from 9th Street with Transpacific Phase I under construction.

Project Area Photographs



36 View of City Center Residence Tower on 9th Street between Broadway and Franklin.



37 Typical Chinatown commercial structures facing site on 9th Street.

Project Area Photographs

EIP/Robert Meyers Associates

 Because Broadway carries heavy traffic volume, it is a unifying element and a focus for these diverse districts. It has high surface pedestrian usage and is a transit spine; there is a BART station at 12th Street, and local and regional AC Transit lines run along its length. Large numbers of people currently cross the project site going north and south, to and from restaurants, shops and jobs in Chinatown and the downtown area. This occurs primarily during the lunch hour. There is also a diagonal movement of pedestrians between Broadway and 11th Street and Webster and 9th Street.

Views from the project site along 9th Street to the east include the 2 and 3-story structures of Chinatown and the 6-story concrete and glass BART Headquarters Building at Madison Street. These low-rise structures are similar to others found throughout Chinatown and face the proposed site between Franklin and Webster (Figure 37). The facades of the shops and restaurants are beige to dark brown brick or light grey to white stucco. Illuminated colored plastic signs overhang the sidewalk.

The building occupied by the Asian Resource Center, at the southwest corner of 9th and Harrison Streets, is identified in the Oakland Cultural Heritage Survey as the Hebern Electric Company Building. This is a 2-story example of an early-20th-century commercial structure (Figure 38). The Survey describes the building's use of light grey terracotta Gothic-design forms and windows. These illustrate the elaborate and decorative (yet inexpensive) use of terracotta to beautify utilitarian structures. This usage was an important aspect of Oakland's City Beautiful movement in the 1920s.

Facing the Asian Resource Center, on the north side of 9th Street, is the Chinese Community Center. This is a 3-building complex with the center entrance structure being of particular architectural interest. The 2-story entrance building is of glass and white stucco with an overhanging tile roof in the traditional Chinese pagoda form. Buildings in

Conducted in 1981 by the Oakland City Planning Department to locate architecturally and/or historically significant buildings.



The Hebern Electric Company Building Occupied by The Asian Resource Center at 9th and Harrison Streets.

Figure No.38

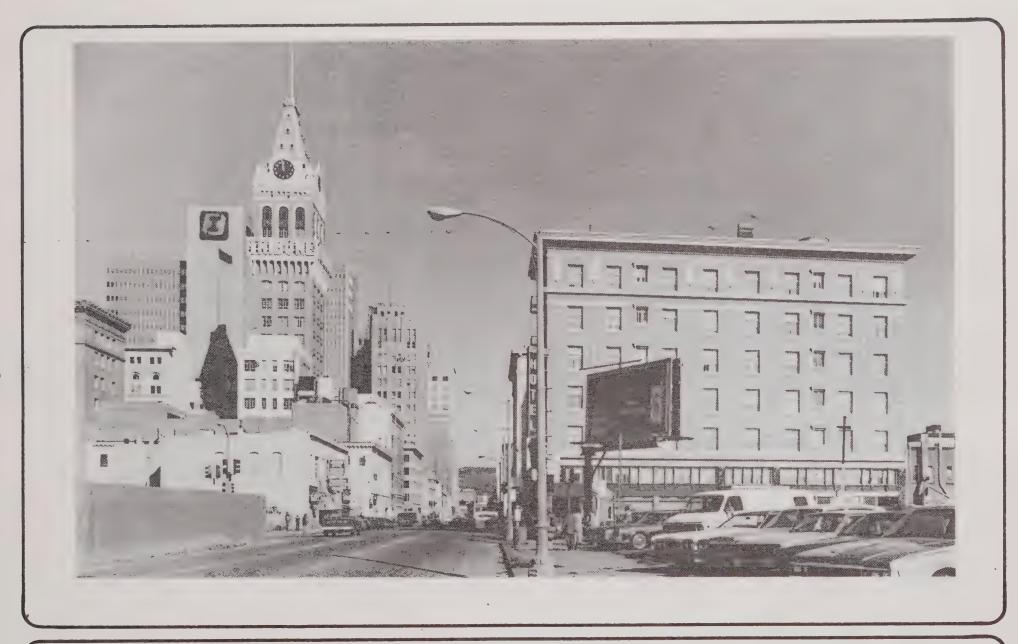
 the Community Center area to the south and east of the proposed project are generally small or have architectural elements which break up their apparent size to give a fine-grained pattern.

The eastern frontage of the site on Webster Street is framed by 2-story buildings larger than those found on 9th Street. These buildings and those found to the east on 10th and 11th Streets have brick or light-colored stucco facades, large ground-floor windows and doors with simple industrial detailing. These features offer visual interest to the pedestrian.

The street and sky dominate the views to the east along 10th and 11th Streets and to the north on Webster Street because adjacent buildings are low. Trees planted on 11th Street at the Lincoln Neighborhood Center and at the State Office Building provide color and visual interest. The Oakland Museum Complex and high-rise residential structures east of Lake Merritt terminate views to the east.

The Trans Pacific Phase I Building and mid-rise and high-rise structures of the 14th and Broadway core area dominate views from the site to the north. Because Webster Street curves westward at 20th Street, the silver-grey Kaiser Center buildings are visible, and the East Bay Hills show behind them.

The 7-story Travelers Hotel is on the northeast corner of 11th and Franklin Streets. Its facade, like those of other nearby mid-rise buildings, is light buff brick with tan masonry trim and a strong horizontal band running at the second story, above the commercial street level. Views north on Franklin Street are of older brick structures with strong second-story lines which help to tie them to the street and to define their street edge (Figure 39). The tower of the Oakland Tribune Building, modeled after the Giralda Tower in Seville, with its clock and steeply sloped copper roof, is prominent. This building was designated a city historical landmark in 1966, and it and the City Hall are symbols of Oakland visible from many parts of the East Bay. Because Franklin Street turns west at 20th Street, the concrete and dark glass Fidelity Savings and Loan Building terminates the



View North to Downtown Along Franklin Street Showing Travelers Hotel and Oakland Tribune Building.

Figure No.39

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 street view. The East Bay Hills are visible and they rise twice the building's height in the distance beyond it.

Tall office structures flank views along Broadway to the north. The 8-story Broadway Building at the triangular corner of San Pablo Avenue and the I4-story Cathedral Building at Telegraph Avenue are architecturally significant. At the northeast corner of 11th and Broadway, facing the Trans Pacific Phase I Building, is the 7-story steel frame and brick Security Bank and Trust Company Building, constructed in 1912 (Figure 40). This building is being rehabilitated and is visible from the east side of the project site. The Cultural Heritage Survey calls it an excellent example of early-20th-century commercial development design because of its distinctive Renaissance and Baroque ornamentation. The Survey also notes that this building was among the first "skyscrapers" erected in Oakland and that it visually connected the older 9th Street downtown area with the newly developed core at 14th and Broadway.

When viewed to the north along Broadway, the Security Bank and Trust Building is one of 4 classical office buildings constructed on the northeast corner of their respective cross-streets. The others are the 17-story Bank of America at 12th Street, the 11-story Unity Building at 13th, and the 16-story Central Building at 14th Street. All 4 share related architectural elements and give a rhythm of development to the street. They have classical bases, shafts and capital arrangements separated by strong horizontal bands. Their 2-story-high ground floors generally contain retail uses and extend to their corner property lines, thus defining the street edges. They have well-defined window openings and their shafts are clad in brown brick or sandstone veneers with terracotta trim. Each structure shows a change of color or material at its base.

The 3 buildings recently erected or under consideration on the west side of Broadway (the Wells Fargo Building, the Clorox Building and Office Building "III") are, by contrast, set back from the street or are at an angle to it and so do not define the edge of Broadway like their counterparts across the street. The 24-story tan and buff-colored Clorox Building is most conspicuous from the site and dominates views to the west.



View North Along East Side of Broadway From 10th Street Showing Security Bank and Trust Building Under Rehabilitation.

Figure No.40

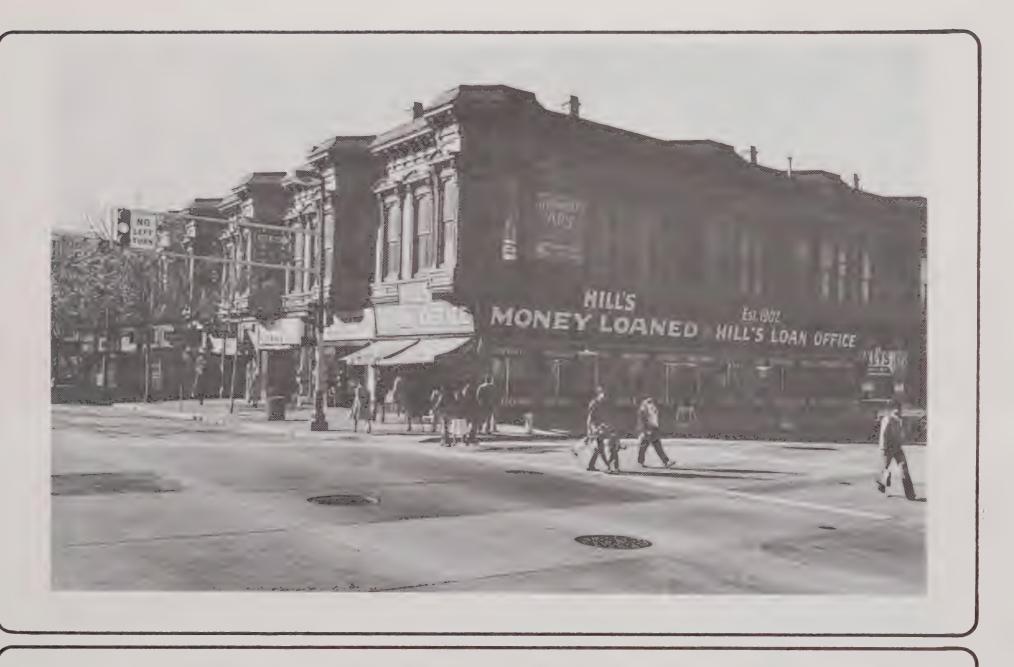
The northwest corner of Broadway and 11th Street is the site of the new City Center Office Buildings "V" and "VI". The site of the Hyatt Regency Hotel and Convention Center Complex, now under construction, faces the Trans Pacific Phase I building between 10th and 11th Streets.

Directly west of the site, between 8th and 10th Streets on Broadway and extending along both sides of 9th and along the south side of 10th Street to Washington, are an almost unbroken series of elaborate 2 and 3-story, late-19th-century commercial buildings called Victorian Row. These buildings are being restored by the Oakland Redevelopment Agency. Originally built as Oakland's central business district, they are significant today for their architectural quality, their history and their key role in the area's commercial development.

The Lawyers' Block, standing between 9th and 10th Streets on Broadway, was built in the 1880s and was identified by the Cultural Heritage Survey as an important visual element of Victorian Row (Figure 41). The Lawyers' Block was built in the Italianate style with conspicuous and repetitive second-floor bay windows. Also a part of Victorian Row is the Wilcox Block, on the southwest corner of Broadway and 9th. According to the Cultural Heritage Survey, this building was also built in the Italianate style, of stuccoed brick masonry with a panelled frieze and a molded cornice along the roof. Double-hung round and segmental head windows and belt courses and sills expressed each floor level (Figure 42). Although its ground floor, like that of the Lawyers' Block, is currently used as a pawn shop, many of the early details remain and will be restored.

Other views to the south along Broadway include repetitive, nondescript low-rise buildings including the concrete and blue-green glass Hall of Justice and the Nimitz Freeway.

Oakland Department of City Planning, Oakland Cultural Heritage Survey, 1981.



The Lawyers' Block at The Southwest Corner of Broadway and 10th Street.

Figure No.41



The Wilcox Block on the Southwest Corner of Broadway and 9th Street.

Figure No.42

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2. Impacts

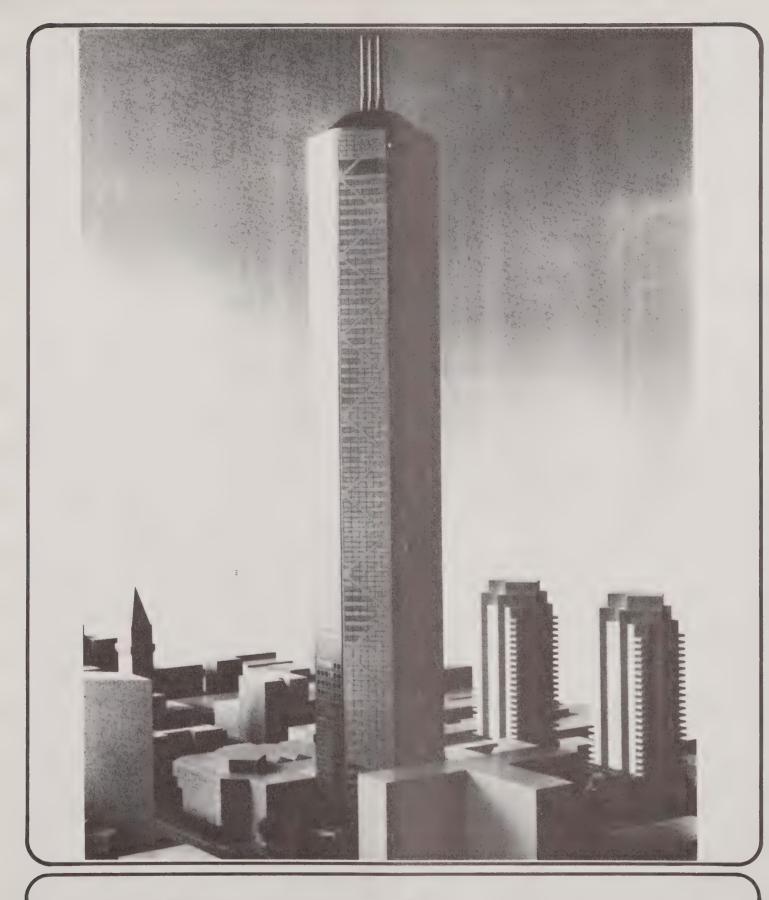
Regional Environment a.

The 68-story Trans Pacific office tower would become a regional landmark for Oakland. Its height would identify the southernmost edge of the City's downtown core from nearby freeways (Figure 43). At 1,100 feet high with its rooftop spires, the tower would be more than 3 times as tall as any of the tallest nearby buildings: the Clorox Building, Oakland City Hall and the Oakland Tribune Tower. It would be more than 2½ times as tall as the Kaiser and Ordway Buildings at 20th Street and would replace them as the tallest structures in the City. The 2 housing towers of the Trans Pacific project would be similar in height to the 3 neighboring buildings in the downtown core, mentioned above.

It is likely that on clear days the proposed tower would be visible from San Francisco Bay and adjacent inland areas between the San Mateo Bridge and the Richmond-San Rafael Bridge. The 3 towers of the project would be seen from San Francisco's waterfront and nearby areas, south to the Bayshore Freeway along the west side of the Bay. The complex would be visible where views to the east are not blocked by The Embarcadero Freeway or the Bay Bridge.

On clear days when viewed from San Francisco's Potrero Hill, or from the upper floors of downtown high-rise buildings, the office tower would appear as a thin silver-grey column. The housing towers would appear as part of the mass of downtown buildings. The East Bay Hills would show behind the tower and the hills' ridgeline would be slightly above it. When viewed from sea level locations in San Francisco and from the west side of the Bay, the tower would appear above the ridgeline of the hills. From the San Mateo Bridge, at a distance of 14 miles, the office tower would appear on the horizon as a thin grey column rising from the Bay to the distant hills above.

The complex would not be visible from shoreline areas of southeastern Marin County because views from there are blocked by the Bay Bridge, Treasure Island and Angel Island. It would be seen from the San Rafael Bridge and from downtown Richmond, 10 miles away. When seen from other northern locations, in Berkeley and in north Oakland, the office tower's upper floors would show considerably above the surrounding downtown buildings and would, except for periods in the morning when the sun is in the east, appear



Scale Model of Project.
View from Southwest

EIP/SOM

Figure No.43

 darkly silhouetted against the brighter sky. These northern views would be perceived most readily from wide north-south arteries such as Interstate 80, San Pablo and Telegraph Avenues, and from upper Broadway in the Rockridge District (Figure 44). The 2 housing towers would be blocked from view by intervening development, though their upper floors may be visible.

The complex would be distinguishable from the northeast from the Oakland Hills. It would appear bright and would reflect light in morning sun and would be darker through the rest of the day. The tower would rise almost as high as the ridge of the hills and would intrude into views to the west from the hill area.

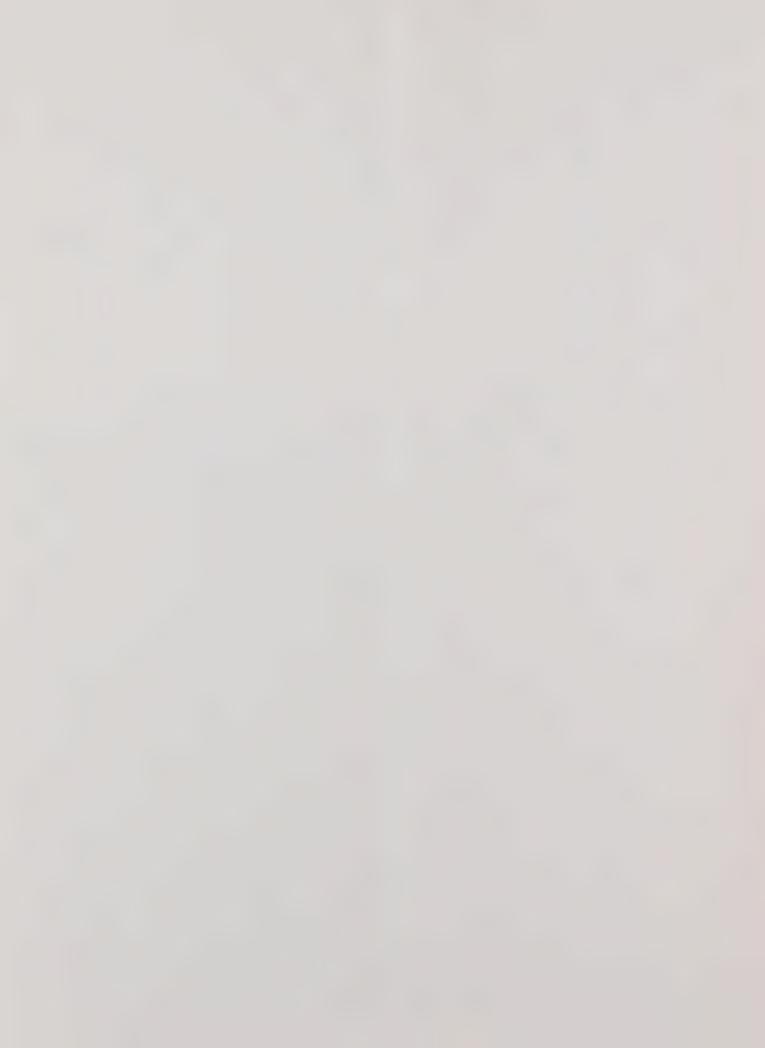
When viewed from the southeast, south, and southwest the complex would be front lit (i.e., from behind the viewer) during most parts of the day. Colors and details would be more apparent than when viewed from northern locations. The complex would be bright and prominent in the skyline seen from East Oakland and from the Nimitz Freeway.

b. Local Environment

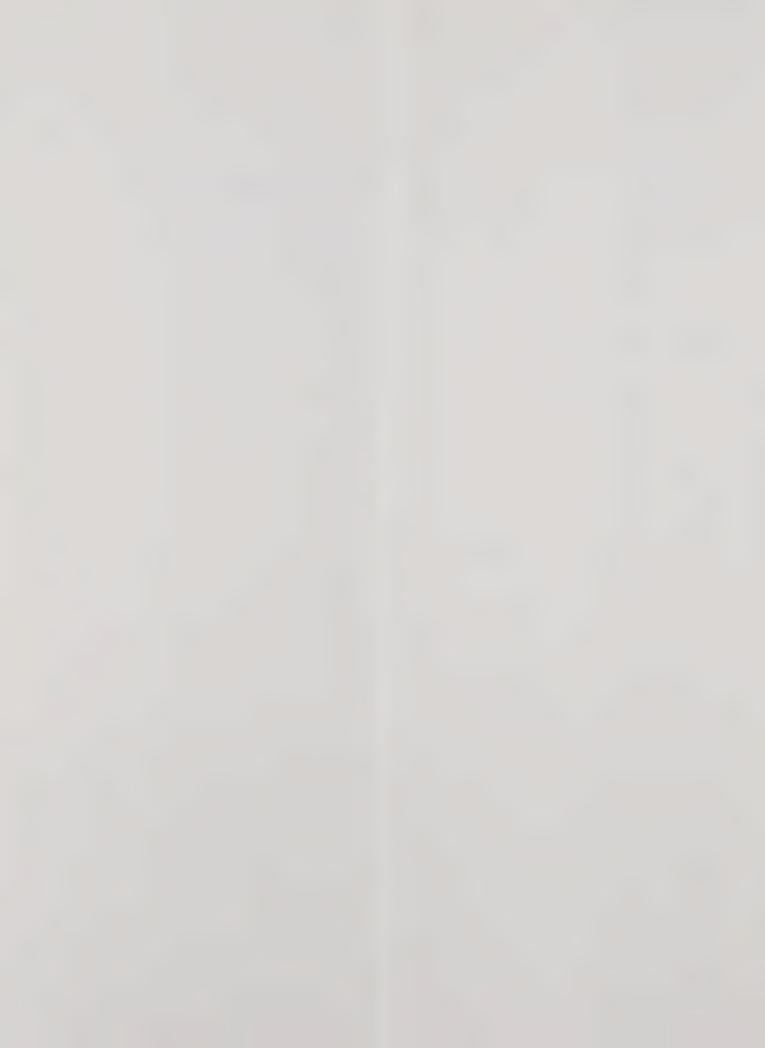
More architectural details would be noticeable from nearby street level locations. Window patterns, facade color, and the structural pattern (including the office tower's prominent diagonal bracing and octagonal shape and the housing structures' distinctive balcony and shadow pattern) would become apparent when viewed at a distance of less than I mile. Locations I mile from the site include the Alameda shore of the Oakland Estuary, the area east of Lake Merritt, San Pablo Avenue below Highway 24 and the Acorn Housing Project at 7th and Market.

From the Alameda shore of the Oakland Estuary, below the foot of Webster Street, the tower complex would rise in front of the downtown core buildings and would block views of most of them (Figure 45). The City Center Tower would provide the only transition in size and scale between the proposed 68-story tower and the low-rise buildings between it and the water. The tower's pewter cladding would appear as a cool color, in contrast to the warmer beige and tans of neighboring structures. In bright southern sun this contrast would be heightened, especially if the tower's glass is reflective.









The two 30-story housing towers would appear between the viewer and the office tower when seen from Lakeshore Avenue east of Lake Merritt. They would appear similar in size to the Clorox Building and would continue the downtown skyline to the south. The housing towers' light tan or beige colored concrete facades would be compatible with Oakland's downtown masonry buildings. Extended and recessed balconies would modulate the towers' rectangular shape and create shadows on their facades to give the buildings visual interest. The uppermost floors would step back to reduce the towers' bulk and mass. From other points along Lakeshore Avenue, the two towers would seem to appear and disappear as intervening structures affect the view. The office tower would be dominant from most eastern and northern locations at the Lake. The tower would appear considerably taller than any of the buildings on the Lake's west shore (Figure 46).

From San Pablo and 14th Street, in the City Hall area, a view south along Broadway would show the office tower filling much of the large vertical rectangle of sky currently framed by the Clorox and Bank of America Buildings at 12th Street (Figure 47). The tower's shadow would darken this stretch of Broadway during midday in all but the summer months and would dominate the view to the south. The housing towers would not be visible from this location.

From the Acorn Development to the west at 7th and Market Streets the 2 residence towers would add to the already existing mass of new and older high-rise buildings in the core (Figure 48). These structures line up as freestanding objects in a north-south direction, starting with City Hall and ending with the Clorox Building and Tribune Tower. The proposed project would add to this building mass to the south. The office tower would appear prominently between the residence towers and would rise more than 3 times higher than nearby buildings.

From the City Center housing tower, the Trans Pacific office building would completely block views to the north and to the downtown. Condominium units along the 9th Street frontage, near the Broadway or Franklin Street side of the housing tower, would be less affected than those directly facing the office building. These latter units would have less visual privacy after the Trans Pacific tower construction. If the cladding or fenestration of the proposed building is very reflective, it would have the greatest visual impact on these units. Views to the northeast, including Lake Merritt and the hills, would be

interrupted by the 2 housing towers. However, new views of the landscaped plaza and garage roof plaza would be created.

4 5

For office workers in the adjacent high-rise buildings to the north, the proposed 3-tower complex would appear as an interrupted wall, with gaps in the wall formed by the cross streets. The complex would block views to the south and southeast. From the Asian Resource Center, the Lincoln Children's Center and the Lincoln Neighborhood Center the proposed project would block sky views to the west and affect the viewer's vista and sense of openness. From Chinatown, along Webster and Franklin Streets, and from the south side of 8th Street, the proposed complex would be visible above adjacent low-rise buildings.

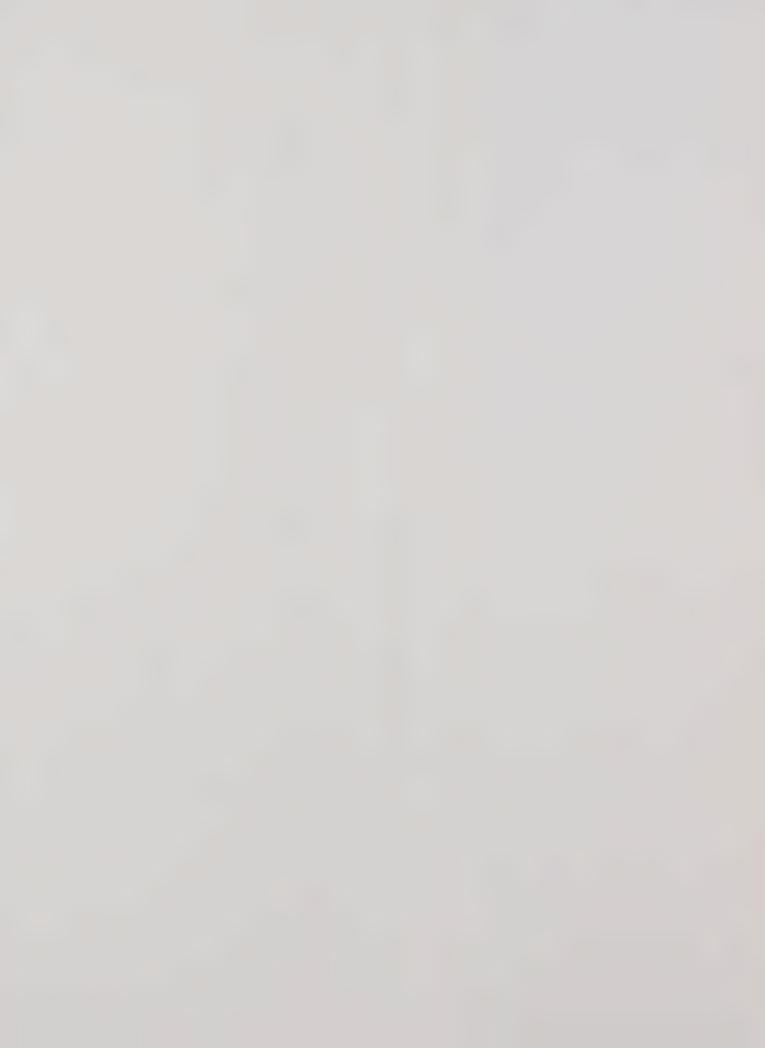
c. Pedestrian Environment

The office tower would stand in the center of a plaza that rises in a series of 2-foot high stepped terraces, west to east, from its main entrance at grade at Broadway to 16 feet above the Franklin Street sidewalk. The tower would set back about 65 feet from the Broadway property line. Rows of large plane or sycamore trees would fill the 2 lowest terraces and the Broadway sidewalk. The plaza's granite paving would surround the trees and enclose the tower's lowest level. Above its lower lobby the tower would be clad in a pewter-like finished steel with low to moderately reflective glass (Figure 49).

Raised planters would occupy the terraces and border the plaza's raised 9th and Franklin Street edges. The planters would provide outdoor seating and would contain decorative low-maintenance plants. Other trees in planters above Franklin Street are intended to frame and define the plaza and to soften the view of the garage wall in the background across Franklin Street. Ivy planted along the plaza's eastern edge would overhang Franklin Street's 20 foot high wall and soften its view from the sidewalk. This wall would include the service area under the raised plaza.

Reflective glass block comprises the Phase I Building's southern wall facing the tower and the plaza. The glass block would be opaque and reflective during the day and translucent at night. Large, closely spaces poplar trees, in planters surrounded by seating, would also step up with the terraces at the plaza's northern edge along the Phase I Building. The trees would reduce the potentially negative reflection of the glass walls toward the plaza.

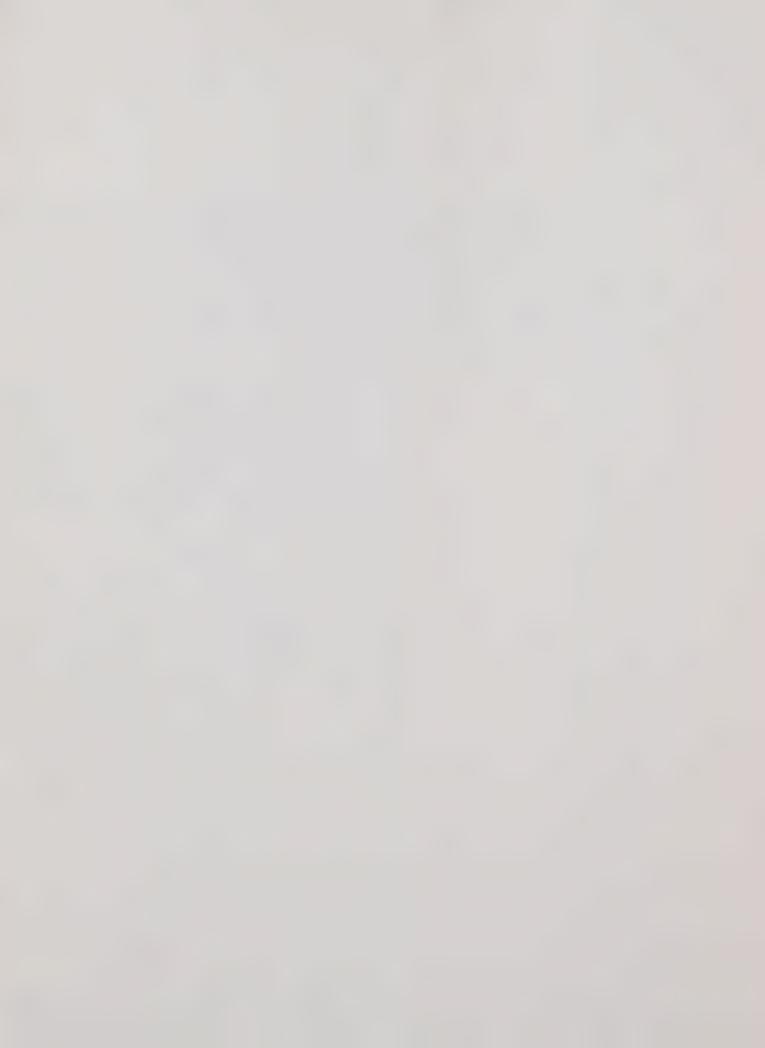


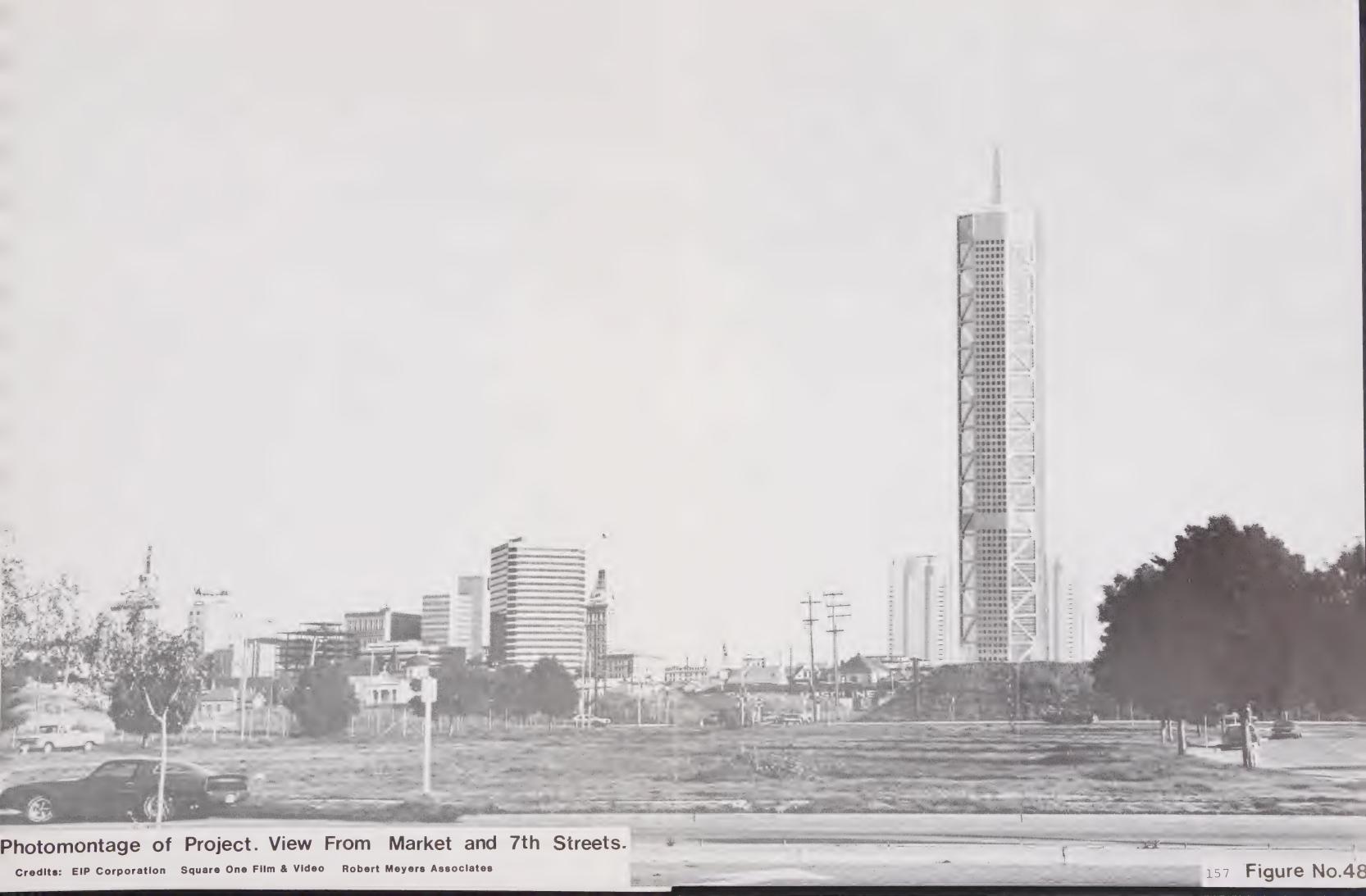


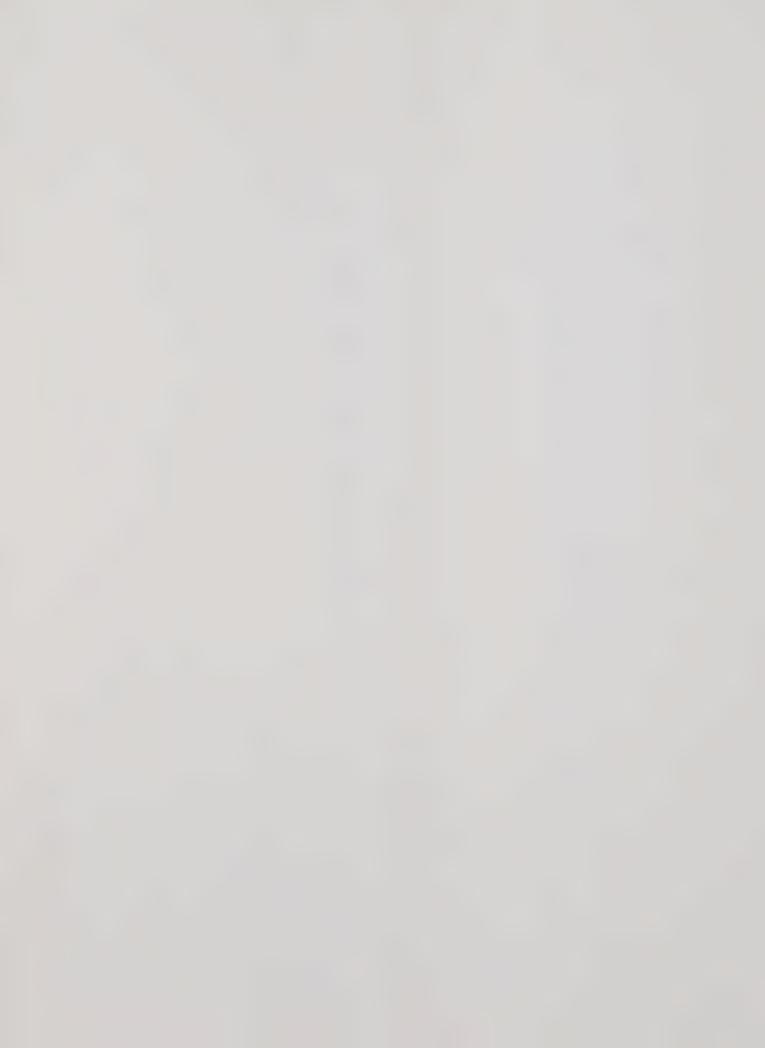


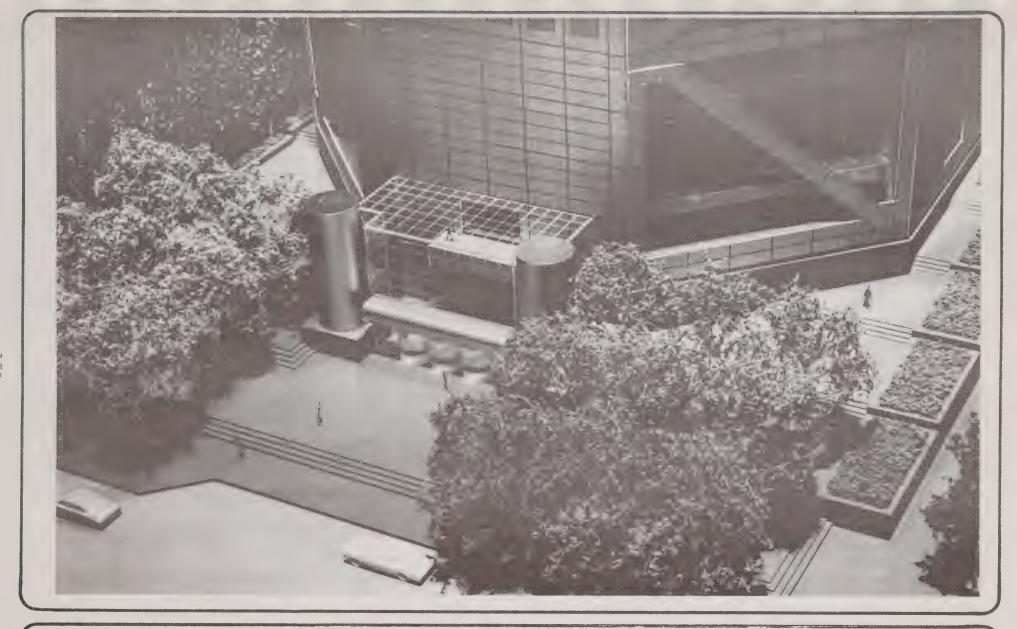
Photomontage of Project. View From San Pablo and 14th Street.

Figure No. 47









Scale Model of Project. View of Office Plaza

Figure No.49 EIP/SOM

In addition to planters, paving, and sitting areas, lighting for nighttime use and other street furniture would add visual interest to complement pedestrian activity.

People would enter the tower from Broadway via a 3-story glass and steel atrium. On February 5, 1982 the architect's model showed that the atrium extended less than half the distance from the tower to the Broadway property line (Figure 50). The architects intend that trees planted on either side of the entry (in the terraces) near the property line, would define the Broadway edge of the project.

The City's S-8 Zoning District recommends continuous building frontages along the site's Broadway edge. For setback buildings such as the tower, it recommends trees to retain the continuity of the building line. Trees would not define the edge as clearly as a structure. Without such an element, the tower (which is set back from both Broadway and 9th Streets) would not continue the strong definition of the northeast corners of the Broadway intersections begun by the high-rise structures along Broadway's east side. There also would be little transition in height or materials between the steel 68-story tower and the masonry and wood 3-story Victorian Row buildings to the west.

People entering the atrium from Broadway (elevation 36 feet) would ascend escalators to Lobby Level One (elevation 58 feet) and to the main tower elevators. A bridge and a stairway would connect this lobby with the Phase I Building's Food Street to the north. A glass-covered bridge would cross over Franklin Street to the east and lead to the parking garage. Escalators would rise to Lobby Level Two (elevation 71 feet) and connect with elevators continuing to the Building's upper floors. Rather than the proposed stairs between the tower's lobby and Food Street, an escalator would more conveniently and smoothly accomplish the 20-foot grade change between the 2 levels.

Two stairs would descend 16 feet from the plaza's raised eastern end to the Franklin Street sidewalk. The stairs would descend between what appears from the model to be unrelieved 20-foot high walls. Without interesting architectural treatment of the walls or plantings, these stairs would appear bleak and uninviting to the pedestrian (Figure 51).

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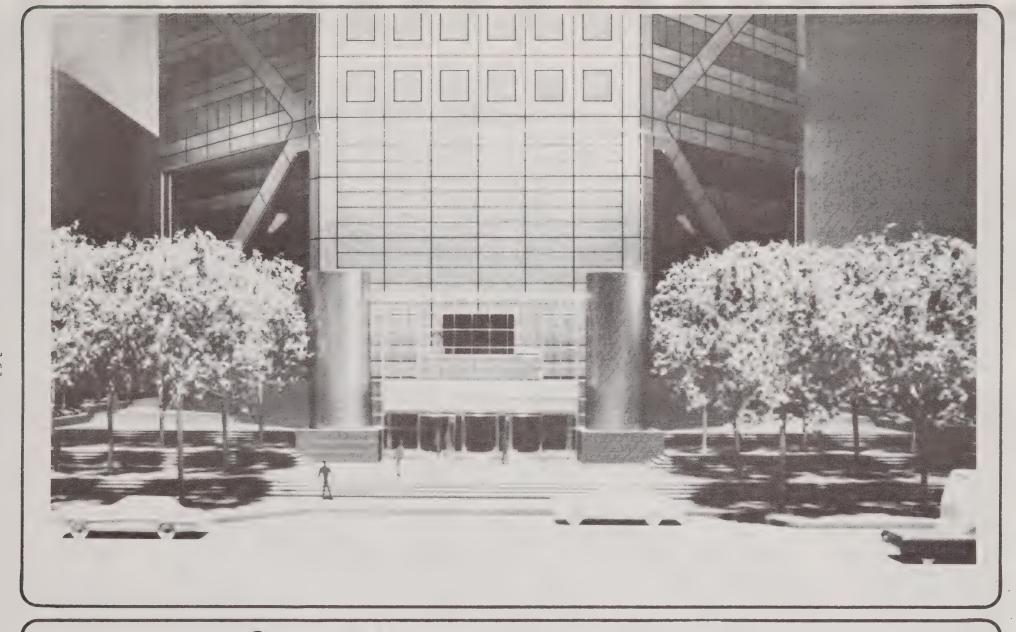
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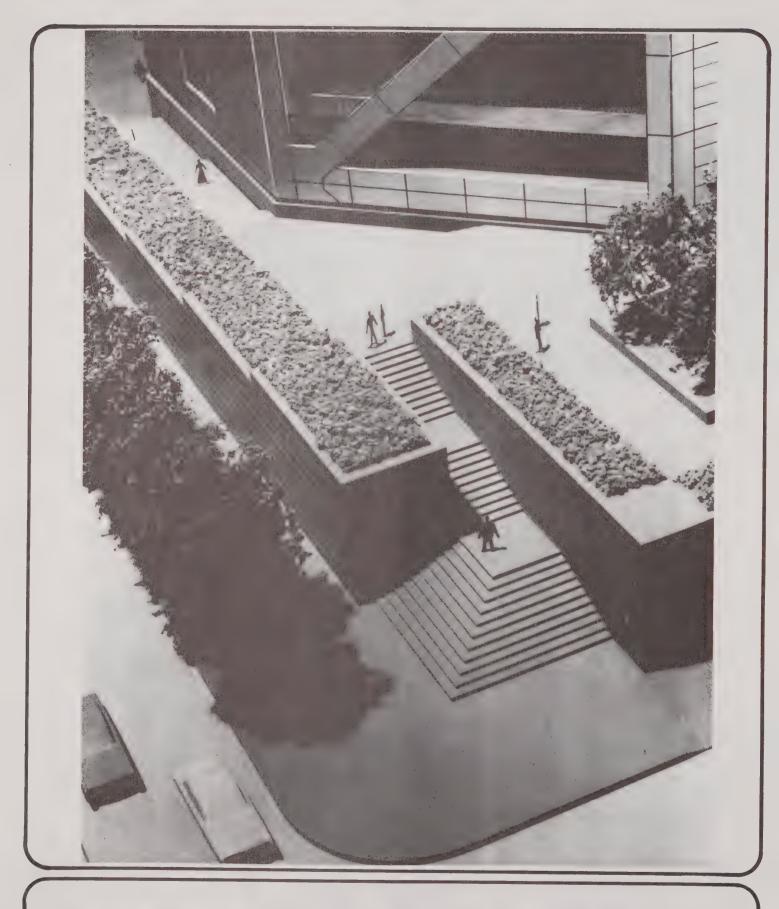
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City of Oakland, Oakland Planning Commission Zoning Regulations, Section 9303.



Scale Model of Project. View of Broadway Atrium

Figure No. 50 EIP/SOM



Scale Model. View of Stairs and Wall Franklin and 9th Streets

EIP/SOM

Figure No. 51

The wall under the plaza along 9th Street should receive more attention than is shown on the model. The wall would step up in height as the plaza above it does, from 6 feet near Broadway to 20 feet at Franklin Street. The wall would be unrelieved along its 240 foot length. The sidewalk would extend to the granite wall with only I row of boxwood street trees to break the impact of the wall. Proposed wall reveal and joint lines may not provide enough visual interest for a wall of this length that faces housing and abuts a sidewalk that will likely receive heavy use.

Except in the summer, this stretch of 9th Street receives little sun because of the adjacent 15-story housing structure. It is likely that the southernmost portions of the plaza near 9th Street would receive shade most of the day except near midday in the summer. The sitting areas developed on the plaza's eastern side would receive more sun, especially in the late mornings. These areas, too, would be shaded in the late afternoon.

The 5-story parking garage would occupy the western portion of the 2 blocks east of Franklin Street, between 9th and 11th Streets. The housing towers would occupy the eastern part of these blocks (Figure 52). The tower on the southern block would set back from 9th Street to make room for the Chinese Cultural Center. The garage and Cultural Center would step back from 9th Street at their upper floors to reduce their apparent mass. The vertical part of the setbacks facing the street would be concrete and reflective glass.

The horizontal parts of the setbacks would be landscaped to provide some visual relief. Shops in the garage's ground floor along 9th Street and for the first 50 feet along Franklin Street would help to relate the garage to the street and to the commercial activities of Chinatown.

Plans show a setback form the 9th Street property line for an extra row of trees and a widened sidewalk. This would be a good location for a sitting area. Between Franklin and Webster Street, nearby buildings across 9th Street are only 2 stories tall and a sitting area would receive year-round sun.



Scale Model. View of Parking Garage and Housing

Figure No. 52 EIP/SOM

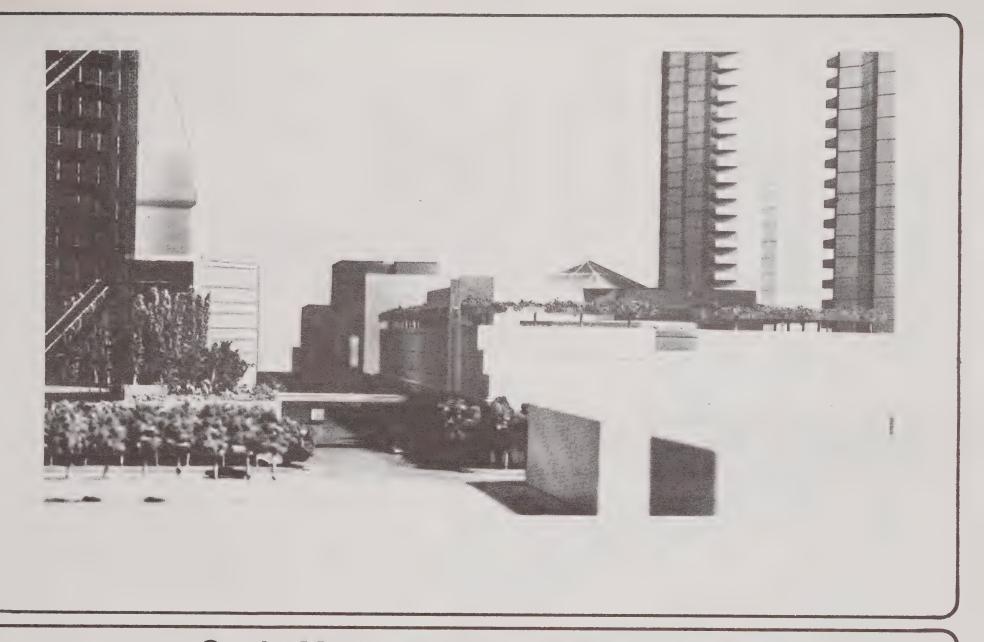
The parking garage would rise 5 stories along Franklin Street's 450 froot frontage and extend 120 feet along 11th Street (Figure 53). Its walls wold be broken by I vehicular entrance, I fire stair door, and one elevator lobby. All of these would be on Franklin Street. The garage's upper 3 floors would set back about 4 feet from the second floor to reduce the building's mass. At each floor the facade would consist of walls 6 to 8 feet tall with openings above them. Louvers or metal grills would fill the openings. At street level, planters may be set into the wall, or the wall may be set back from the sidewalk to permit room for a planting strip. The walls would have an architectural treatment of reveal and joint lines and may contain a precast pattern in the concrete to give them texture. These measures and street trees may ease the visual impact of this large structure on Franklin Street.

The combined effects of increased vehicular traffic, the continuous garage walls, and the office tower's enclosed service area would create potentially adverse impacts on the pedestrian and visual environment. Franklin Street may be compared to Washington Street in San Francisco's Golden Gateway Center, where garage walls with narrow sidewalks in between face heavily trafficked streets. Because of these potential impacts pedestrians walking between the proposed project, the downtown, and Chinatown may

prefer to walk on Broadway or Webster Streets and to avoid Franklin Street entirely.

The Franklin Street garage lobby would be enclosed by solid walls with narrow door openings. Such an entrance would be difficult to monitor for security, from the street or from the garage. Pedestrians would likely find it an unsafe entrance to use unless it could be more centrally located or be nearer to the vehicular entrance.

The bridge over Franklin Street connecting the office plaza and garage is intended to reduce pedestrian and vehicular conflicts. In spite of this it may further discourage pedestrian use of this street. Although the bridge would be only one level high with an unobtrusive roof, it would still obstruct some views to the downtown and to the hills from Chinatown, along Franklin Street.



Scale Model of Project. View North on Franklin Street

Figure No. 53 EIP/Square One Film&Video

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The potential impacts of the garage's face on 11th Street would be similar to those described for Franklin Street. Although the design plans of February 5, 1982 were in diagrammatic form, the architects have improved the 11th Street facade. The project would not turn its back to 11th Street and the downtown as in the drawings prepared for the January 15, 1982 draft. The 2 large, round garage ramps would be internal and not expressed on the facade.

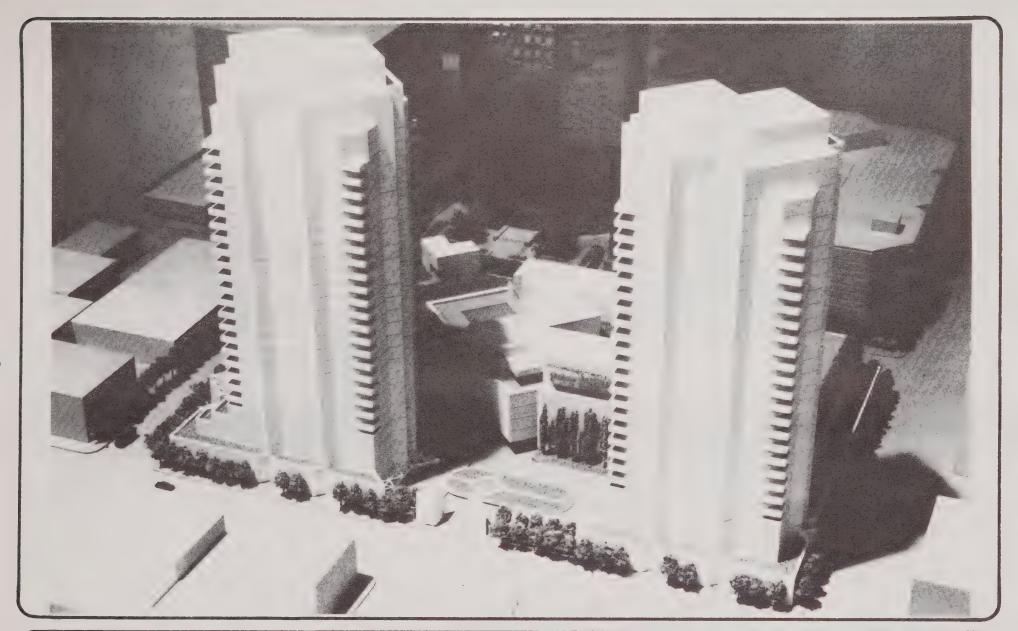
Ground floor retail shops would wrap the 11th and Webster Street corner under the residence tower and would extend westward almost two-thirds of the way along 11th Street and into the garage (Figure 54). Setbacks above the second floor would continue above the residence tower's shops to help relate the tower to the street and to the Travelers Hotel at 11th and Franklin Streets. The residences' entry courtyard would be opposite 10th Street, which would be closed within the project. The courtyard would open to the 2 housing lobbies and their service areas and to a separate housing garage.

Along Webster Street, ground floor shops with setbacks above the second floor would continue from 11th to 9th Street. An open fence and gate would separate the housing courtyard from Webster Street. These items plus street trees and articulations in the shops' facades would help to reduce the potential impact of the two 30-story towers on Webster Street's pedestrian environment.

Potential internal environmental impacts would be created among the 5 structures of the existing and proposed Trans Pacific projects (Figure 55). The office tower and the housing towers would each block some of the views from the other buildings. If the office towers' exterior is highly reflective, it would reflect morning sun as glare into the housing towers' windows. The reflective glass block on the Phase I Building's southern wall would reflect onto the office tower's plaza. Shadows from the office and southernmost housing tower would fall on the open spaces proposed for the garage roof and office plaza. Phase I's rooftop mechanical equipment would be visible from the other towers, as would the roofs of the housing towers from the office tower.

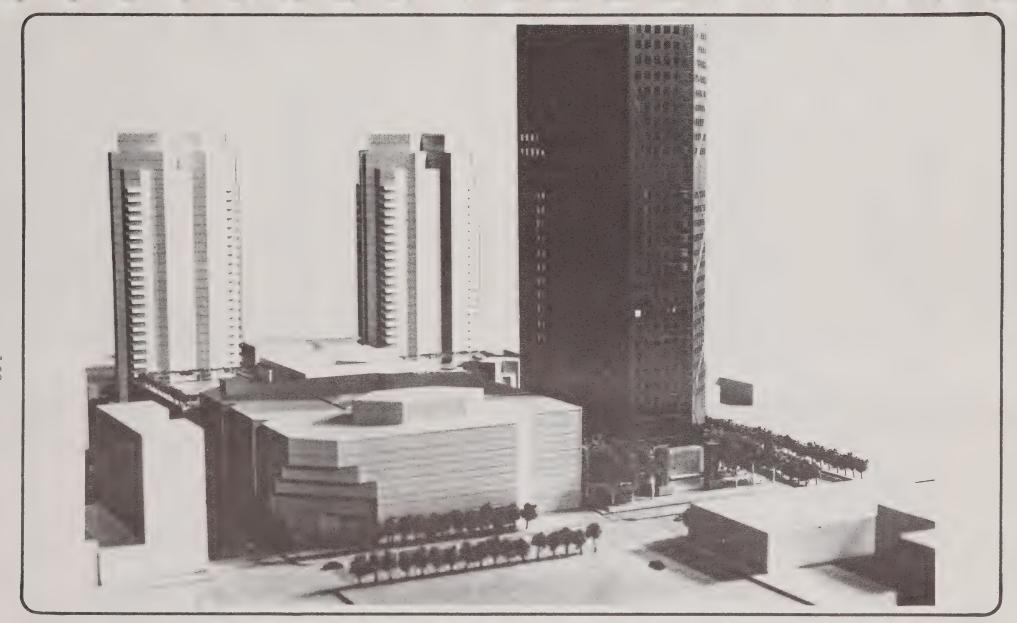
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Scale Model. View of Housing and Webster Street Entry

Figure No.54 EIP/SOM



Scale Model. View of Phase I and Proposed Project

Figure No. 55 EIP/Square One Film & Video

The 5 buildings of the entire Trans Pacific complex would have 4 different sizes and shapes; the only similarity relating the 5 buildings would be their color. The Phase I Building is tan precast concrete, and the 2 housing towers and the parking garage would be warm white or light beige precast concrete. An "architectural glue" could be used at the pedestrian level to tie these diverse structures together. A consistent design language of plantings, street furniture, paving, lighting, and signs would accomplish this goal. Drawings to show this problem's resolution are not yet complete.

The architects have attempted to provide a visual transition between the 68-story steel and glass office tower and the bulky 6-story concrete Phase I Building (Figure 56). Only a narrow 20-foot gap separates the 2 diverse structures. To make this space appear wider, Phase I's glass block wall would reflect light during the day and give off light from within the building at night. Poplar trees in raised planters against the reflective wall would soften its appearance and help it relate to the human scale.

There is strong potential for diagonal pedestrian movement through the entire complex, from downtown to Chinatown between Broadway at 11th Street and Webster and 9th Street. The Oakland Redevelopment Agency has stated that the project area should be designed for a continuity of pedestrian movement within the area and the surrounding commercial areas.

As proposed, the project's potential diagonal movement would only partially be realized. Pedestrians would enter the Phase I Building's lobby at 11th and Broadway, walk up into the office tower's lobby via the stair and bridge from Food Street, and enter the parking garage from its lobby at the eastern end of the Franklin Street overpass. From the parking garage there would be no public connection to complete the diagonal movement to the Chinese Cultural Center or to 9th and Webster Streets. Elevators would connect to the garage and down to Franklin Street from the lobby. From the lobby, residents and their guests could enter the housing complex and the health club.

Oakland Redevelopment Agency, <u>Central District Urban Renewal PLan</u>, June 1979, page 29.



Scale Model. View of Phase I and Office Tower

Figure No. 56 EIP/Square One Film&Video

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3. Mitigation

Mitigation Measures Intrinsic to the Project a.

- Public pedestrian amenities proposed include a major plaza surrounding the office tower, widened sidewalks on Broadway and on 9th Street between Franklin and Webster Streets, a bridge over Franklin and a walkway connecting the tower with the Phase ! Building. Where appropriate, these areas would have trees and other plantings, passive recreational space, lighting and decorative paving.
- Ground floor, pedestrian scale shops on Webster, 9th Street and on a portion of 11th Street, and a Chinese Cultural Center on 9th Street would contribute to a visually attractive streetscape.
- A rooftop plaza and health club above the garage would be built for residents' and club members' active and passive recreational use. The residences would have a landscaped entry courtyard and private balconies.
- The stepped 9th Street facades of the garage and the Cultural Center are intended to reduce their scale and bulk and to serve as height transitions to the smaller buildings of Chinatown.
- A setback above the garage and residence towers' second floor would help relate the buildings to the street and reduce their visual impact on pedestrians on the sidewalk.
- The street-facing walls of the parking garage and service area (under the office plaza) would have street trees and architectural treatment for visual interest and pedestrian amenity.
- The housing towers' light beige or tan colors would blend with the existing downtown masonry buildings.

- The housing would be built as two 30-story towers instead of 1 long stepped slab along Webster Street proposed as Alternative 3 (See Section VII.D). The 2 buildings would have less mass and would block fewer views than the long slab.
- The office tower would be tall but slender. This design would not obstruct views as much as would a bulkier design.

b. Mitigation Measures Proposed for the Project

- To reduce the potential impact of glare on surrounding buildings and on views of the downtown skyline, the office tower should be clad in nonreflective materials.
- To reduce the potential color contrast between the office tower's cool silver-grey steel and the warmer tans and beiges of the existing neighboring buildings (and of Phase I and the proposed housing towers), the office tower should be clad in a warm grey material.
- The office tower's proposed 3-story entrance structure should be built to the tower's Broadway property line. This would:
 - a). Define Broadway's street edge and tie the building (which is set back from Broadway and 9th) to the street.
 - b). Provide a transition in height, scale, and color between the tower and the Victorian Row buildings.
 - c) Continue the rhythm of major structures built on the northeast corners of the Broadway intersections.
- Because the City Center housing shades 9th Street much of the year, it is unlikely that sidewalk sitting areas developed there or at the raised plaza would be used. Shops should be developed under

the plaza along 9th Street instead to relieve the proposed 240 foot long wall.

- A wind-sheltered open space for sunning and passive recreation (such as checkers) should be developed on 9th Street next to or in the proposed Chinese Cultural Center. It should be at grade or slightly raised, but should be accessible from the street.
- To reduce the potential impacts on the pedestrian and visual environment at 11th and Franklin Streets, the following mitigation measures should be incorporated into the design of the parking garage:
 - a) The walls of the garage's lower 2 floors should be open, or mostly open, to permit visual communication between the inside of the garage and the street.
 - b) Ground-floor space should be reserved for future shops in order to promote pedestrian activity.
 - c) The pedestrian lobby should be open so it can more easily be monitored from the street and from the garage, and should be located next to the auto entrance.
 - d) Any architectural treatment developed for the Franklin Street facade should help relate the garage to the street, to older buildings nearby, and to Chinatown's smaller structures.
 - e) Any pedestrian overpass developed on Franklin Street should be as visually unobtrusive as possible. It should be built as I level without opaque upper sides or roof. If a covering is required, it should be made of nonreflective, transparent material.
- To acknowledge the strong potential diagonal movement through the site from downtown to Chinatown, there should be a public link between Broadway at 11th Street and Webster at 9th Street. This

may be accomplished by providing a continuous walkway through the lobby of the Phase I Building and Food Street to the office plaza, via the Franklin Street overpass with internal access to the parking garage and the Chinese Cultural Center.

- The office plaza, sidewalk sitting areas and garage roof all should be designed to be viewed from the project towers above. Benches, plantings, and proposed outdoor activities should be sited to receive the best sun exposure and the least shade from surrounding structures.
- Rooftop mechanical equipment and the roof surfaces on the Phase I Building and on the housing structures should be designed to take into account viewing from above. The equipment should be shielded from view, and the roof surfaces should have visually interesting treatment.
- Throughout Phase I and Phase II, at public pedestrian areas, a consistent design language of plantings, street furniture, paving, lighting and signs should be used to tie together visually the 5 buildings of the 2 projects. This architectural treatment might incorporate design elements from the Chinatown community.
- The 20-foot high walls that flank the stairs that descend from the office tower plaza to Franklin Street should have an architectural treatment or planting in them.
- Although the 68-story, 1,100 foot tall office tower is relatively small in diameter and therefore would appear slender, and although its silver-grey color would provide minimum contrast with the sky, the montage photographs show that the tower's great height would make it an obtrusive skyline object from all directions of sight. Even if all these mitigation measures are carried out, the tower would completely overpower the Victorian Row and Chinatown areas.

A shorter tower of 45 stories, as described in Alternative I, would be visually less intrusive and would not break the line of the downtown skyline in such an abrupt way. A 45-story building would retain the desired prominence and would still function as Oakland's regional landmark.

F. SHADE AND SHADOW

1. Setting

Shadows cast by structures are determined by the geometry of the structure and the height of the sun above the horizion. Shadows are longest when the sun is low in the sky in the morning and late afternoon and shortest at solar noon, when the sun reaches its highest point in the sky. Shade patterns also vary seasonally, with the longest shadows occurring in winter and the shortest in summer.

The pedestrian areas near the site are currently generally sunny because of the relatively low development in the area. The Convention Center/Hotel complex shades the 11th Street-Broadway intersection during the afternoon. The 15-story City Center Towers, immediately south of Ninth Street, casts shadows onto the site at midday.

2. Impacts

Sun-shade photographs have been prepared using a scale model of the project and its surroundings and a sun-angle simulator. These photos were prepared for 4 times of day (9 A.M., II A.M., I P.M. and 3 P.M. PST) for the first day of each season (see Figures 57 through 68). The figures are oblique photographs looking from the north towards the project. The project is at the upper center of the photographs.

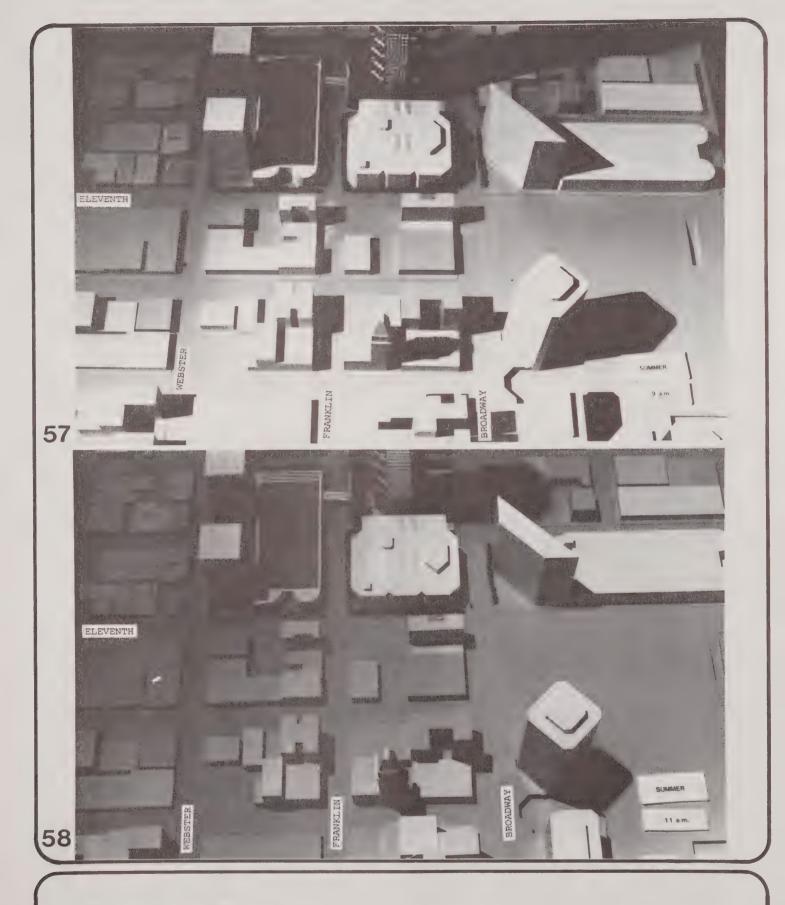
a. Summer

At 9 A.M. (Figure 57) shadows fall toward the west. The residential towers would shade the parking garage rooftop and the office tower shadow would extend across Victorian Row a distance of several blocks.

At 11 A.M. (Figure 58) shadows extend towards the northwest. Shadow lengths are short. The shadow of the office tower would extend about 1/2 block onto Victorian Row.

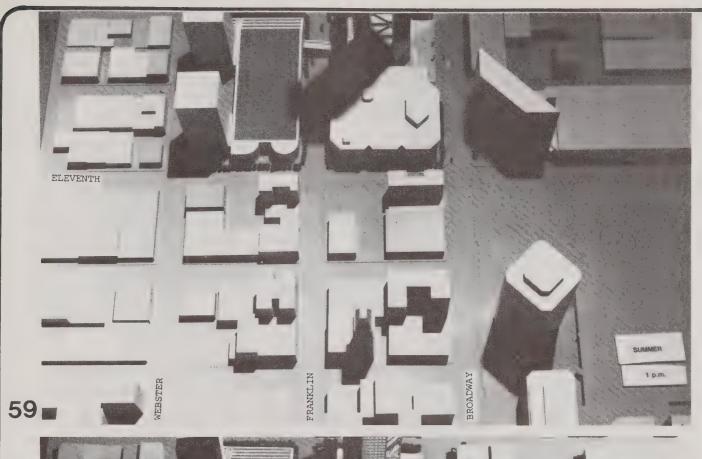
At I P.M. (Figure 59) shadows are oriented towards the northeast and are short. Shadows from the residential towers would extend part way across Webster Street, and the shadow of the office tower would extend across Franklin Street to the proposed parking structure.

By 3 P.M. shadows extend toward the east (see Figure 60). Shade from the residential towers would extend across Webster Street and would cover about half the block to the east. Shadows from the office tower would extend to Harrison Street, partially shading the southern residential tower.



57 Summer 9 A.M.

58 Summer 11 A.M.





59 Summer 1 P.M.

60 Summer 3 P.M.

b. Spring and Fall

At 9 A.M. shadows extend to the west (Figure 61). The residential buildings and parking garage would shade Franklin Street. The office tower shadow would extend across the Convention Center/Hotel roof and beyond Clay Street.

At II A.M. shadows extend to the northwest (Figure 62). The shadow of the south residential tower would fall across the proposed parking structure, while the northern residential tower would shade IIth street. The office tower would shade the Convention Center/Hotel and the southwest corner of the Broadway-IIth Street intersection; the office tower shadow would extend to the City Center complex. The City Center Towers shades the proposed plaza along 9th street.

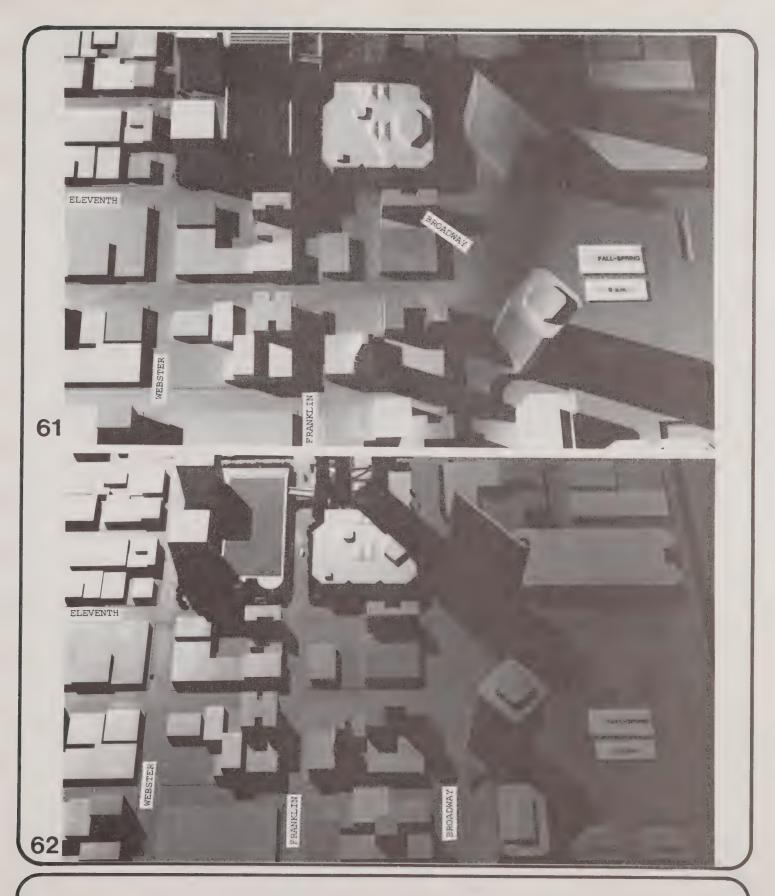
At I P.M. shadows extend to the northeast (Figure 63). The residential towers would shade the west side of Webster Street between Broadway and 10th Street. The office tower would shade the rooftop of the building built in Phase I of the Trans Pacific Centre, the Franklin-IIth Street intersection and Franklin Street between IIth and I2th Streets. The plaza at the base of the office tower would be partially shaded by the existing City Center Towers.

At 3 P.M. shadows extend to the east (see Figure 64). The project would shade most of Franklin, Webster, 11th and 12th Streets. The shadow of the office tower would extend several blocks to the east.

c. Winter

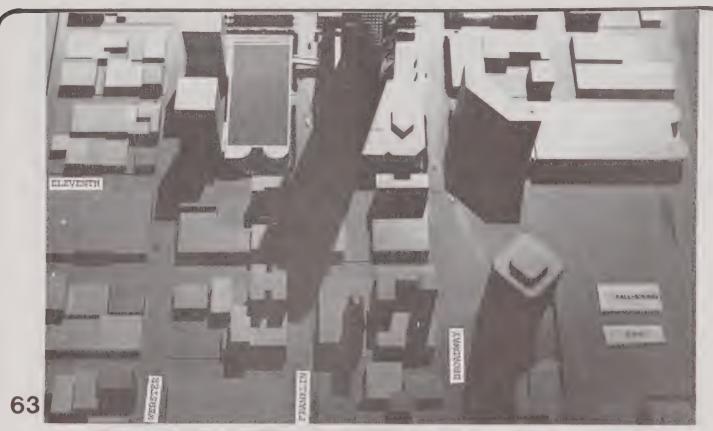
At 9 A.M. most pedestrian areas near the site would be shaded (see Figure 65). The shadow of the office tower would extend more than ½ mile to the west.

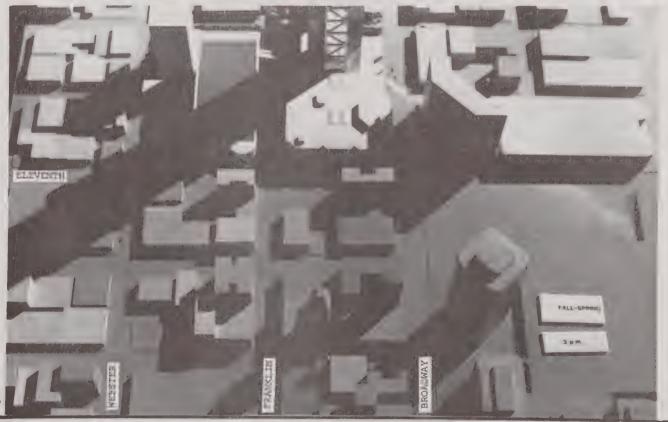
At II A.M. shadows are oriented to the northwest (see Figure 66). The north residential tower would shade the west half of the block to the north. The office tower would shade the Broadway-IIth Street intersection and would extend across the City Center complex. The proposed plaza near the base of the office building would be completely shaded by the City Center Towers.



61 Fall and Spring 9 A.M.

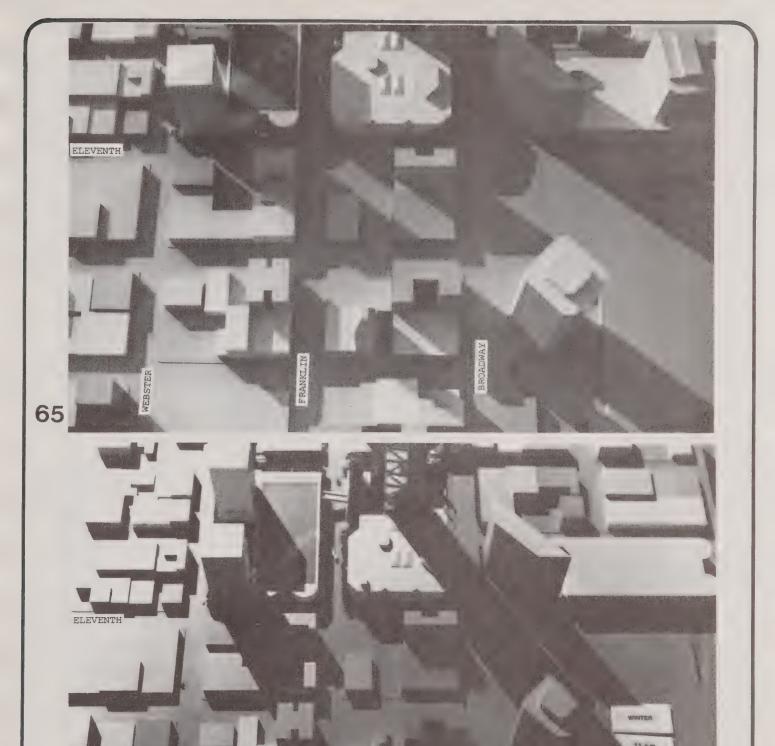
62 Fall and Spring 11 A.M.





63 Fall and Spring 1 P.M.

64 Fall and Spring 3 P.M.



65 Winter 9 A.M.

66

66 Winter 11 A.M.

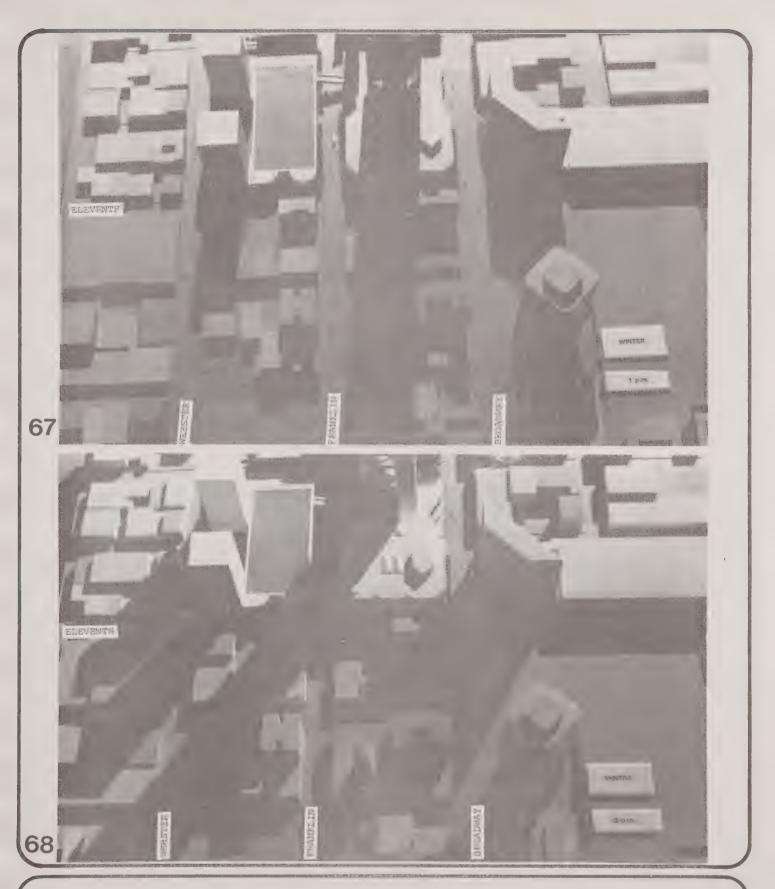
At I P.M. (see Figure 67) shadows would extend to the northeast. The south residential tower would shade the parking garage entrance. The northern residential tower would shade 11th Street and the west side of Webster Street up to 12th Street. The shadow of the office tower would extend several blocks to the northeast, to 14th Street. The plaza near the base of the office tower would be completely shaded by the City Center Towers.

At 3 P.M. most areas near the project would be shaded (see Figure 68). The shadow of the office tower would extend more than ½ mile to the east, and most pedestrian areas would already be shaded at this time.

3. Mitigation

The narrowness of the proposed office tower acts to reduce the time that a given location would be shaded by the structure. Shorter buildings with a larger profile would affect a lesser area, but for a greater length of time.

Because shadows are cast towards the north at midday, the shading effect of the northern residential tower could be reduced by relocation at the southwest corner of its block, so that most of its shadow would fall on the parking garage rooftop.



67 Winter 1 P.M.

68 Winter 3 P.M.

The slender tower design is not likely to be a contributor to winds at the tower base, nor is the octagonal shape. These 2 design features normally would result in little wind impact (compared to more squat or wide shapes). Different tower shapes would not, therefore, be expected to mitigate wind impacts.

A well-documented means of reducing wind accelerations near a tower base is to place the tower atop a low-rise base building or, alternatively, build a canopy out from the tower. For the Trans Pacific project, such a base would ideally be 2 to 5 stories in height. Under this situation, the strong winds occur atop the base, rather than at ground level. The effectiveness of such a design change can be determined by additional wind-tunnel tests.

A second type of mitigation measure involves additions to the project that would provide local shelter for pedestrians. Small structures such as kiosks for newspaper or flower vendors, telephone booths, and shelters at bus stops can serve in this way. Similarly, street trees and other vegetation can function as windbreaks.

Such measures would be advisable throughout the project and along neighboring streets, particularly along 9th Street and near the Webster-10th Street intersection.

The raised plaza and placement of street trees along 9th Street would reduce the wind impacts along that street's sidewalk to within comfortable levels. An architectural treatment of the corresponding plaza areas adjacent to the tower along 9th Street, utilizing trelisses or wind-screens in conjunction with trees, would similarly mitigate wind impacts for pedestrians on the plaza.

G. MICROCLIMATE

I. Setting

The project site is generally exposed to prevailing winds from off the Bay. The site is generally south of the downtown central business district highrise area. The prevailing wind direction is westerly. Winds at Alameda Naval Air Station, located about 2 miles west of the site, are from the northwest, west and southwest over 60% of the time. The average wind speed when the wind is from these directions is 9.5 mph. Calms occur about 10% of the time.

2. Impacts

The microclimate impact of the proposed project was measured during wind tunnel tests of a scale model in EIP Corporation's boundary-layer wind tunnel (see Microclimate Impact Study, Appendix B, which contains a description of this facility and a discussion of wind-tunnel testing methodology).

Wind-tunnel tests were conducted for northwest, west and southwest wind directions. Measured winds were compared to criteria for human comfort and safety. Winds were generally highest for the westerly direction. The comfort criterion was exceeded near the office tower and across 9th Street in front of the City Center Towers, and also near the 9th-Webster, 10th-Webster and 11th-Franklin intersections. In general, the project increased winds south of the site and decreased winds to the east.

The safety criterion was exceeded near the south side of the office tower, where winds were up to double the ambient wind speed.

3. Mitigation Measures

The general exceedance of both the comfort and safety criteria near the base of the office tower indicates the need for mitigation in this area. The probable reason for these high winds is the height of the building, its proximity to the City Center Towers and the fact that the proposed building is entirely exposed to prevailing winds.

California Department of Water Resources, <u>Wind in California</u>, Bulletin No. 185, January 1978.

The slender tower design is not likely to be a contributor to winds at the tower base, nor is the octagonal shape. These 2 design features normally would result in little wind impact (compared to more squat or wide shapes). Different tower shapes would not, therefore, be expected to mitigate wind impacts.

A well-documented means of reducing wind accelerations near a tower base is to place the tower atop a low-rise base building or, alternatively, build a canopy out from the tower. For the Trans Pacific project, such a base would ideally be 2 to 5 stories in height. Under this situation, the strong winds occur atop the base, rather than at ground level. The effectiveness of such a design change can be determined by additional wind-tunnel tests.

A second type of mitigation measure involves additions to the project that would provide local shelter for pedestrians. Small structures such as kiosks for newspaper or flower vendors, telephone booths, and shelters at bus stops can serve in this way. Similarly, street trees and other vegetation can function as windbreaks.

Such measures would be advisable throughout the project and along neighboring streets, particularly along 9th Street and near the Webster-10th Street intersection.

The raised plaza and placement of street trees along 9th Street would reduce the wind impacts along that street's sidewalk to within comfortable levels. An architectural treatment of the corresponding plaza areas adjacent to the tower along 9th Street, utilizing trelisses or wind-screens in conjunction with trees, would similarly mitigate wind impacts for pedestrians on the plaza.

H. COMMUNITY SERVICES

I. Water Supply

a. Setting

The water supply for the area is under the jurisdiction of the East Bay Municipal Utilities District (EBMUD). Water is supplied for the 68.4 billion gallon Pardee Reservoir on the Mokelumne River in the Sierra Nevadas. Principal storage within the City is at the 154-million-gallon Central Reservoir, located at the eastern termination of 30th Street at 23rd Avenue. Approximately 105 million gallons per day (mgd) is consumed within the City of Oakland. Per capita consumption is about 205 gallons per day (gpd), compared with 130 gpd in San Francisco and 185 gpd in Los Angeles. Although Part of this higher rate is attributable to Oakland's industrial sector, the consumption rate is considered high and conservation is a high priority.²

The project site is served from East Bay Municipal Utility District's Central Pressure Zone via a network of distribution lines interconnected with a 30-inch-diameter transmission pipeline in 9th Street. The Central Pressure Zone is EBMUD's largest pressure zone, with a total storage capacity of nearly 375 million gallons.

b. Impacts

Based on the proposed uses of each building, and associated landscaping, the total project would consume an average of about 247,500 gallons of water per day, or 0.248 mgd. This would represent about 0.2% of the City's present consumption rate of 105 mgd.

Consumption rates: 15 gallons/day/employees

150 gallons/day per resident

Employees: 1 per 250 sq. ft. non-residential space = 6500

Residents: 2.5/dwelling unit = 1000

Consumption: $15 \times 6500 = 97,500$ + $150 \times 1000 = 150,000$ 247,500 gallons day

Source: Rau, John G. and David C. Wooten, 1980, <u>Environmental Impact Analysis</u>
Handbook

189

Conversation with Bill McGowen, Associate Civil Engineer, Distribution Planning Section, East Bay Municipal Utilities District, December 1, 1981.

²Oakland Redevelopment Agency, <u>Victorian Row/Old Oakland Draft Environmental</u> Impact Report, p. 212.

 $^{^3\}mathrm{A}$ conservative (high impact) estimate of water consumption was calculated using the following methodology:

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The water supply system serving the project site is capable of supplying flows sufficient for fire suppression, which any conceivable consumptive demand the proposed land uses may generate. Hydrant tests performed on March 19, 981 showed flow rates of 7900 gallons per minute (gpm) at 11th and Broadway and 5200 gpm at 9th and Broadway.

2. Wastewater

a. Setting

The Special Sewage Treatment District No. I (SD I) of EMBUD was established in 1944 to provide for the treatment and disposal of sanitary and industrial wastewater from the cities of Oakland, Albany, Berkeley, Emeryville, Alameda and Piedmont. The facilities constructed for this purpose are designed with sufficient capacity to meet the projected needs of the District's service areas until the year 2000. The design capacity of the system is 120 mgd, while current treatment flows average 73 mgd.²

The City of Oakland owns and operates the sanitary sewers which convey wastewater to an SD I intercepter for transmission to the SD I Water Pollution Control Plant, located near the foot of West Grand Avenue. The treatment provided by the plant is designed to meet State and Federal regulations concerning waste water treatment and disposal.

Although the City operates separate storm and sanitary sewer systems, the sanitary systems' design capacity is exceeded during some winter storms due to infiltration of storm waters into the sanitary collection system. SD I is presently conducting an Infiltration and inflow study in order to design a program for eliminating overflows resulting from stormwater inflow infiltration.

Telephone conversation with Bill McGowen, Associate Civil Engineer, East Bay Municipal Utilities District, December 2, 1981.

²The data in this section is derived from telephone communications with EBMUD Engineer Richard Rago, December I and 4, 1981, and a data from a letter from W.F. Anton, EBMUD to Norman J. Lind, City of Oakland Director of City Planning, July 26, 1979.

b. Impacts

Wastewater generated from the project is expected to average 0.248 mgd, or 0.2% of its average daily flow. EBMUD indicates that local collection and treatment facilities are adequate to handle this flow, and that the project will not therefore have any adverse impacts in the SD I collection and treatment facilities. The City of Oakland's Engineering Services Division states that more design time is required to ascertain the effects of the increased flow on mains downtstream.

c. Mitigation

At the request of the City of Oakland's engineering staff, the office tower will be designed to direct 60% of its sewage flows to the Broadway collector line and 40% into the Franklin Street collector line.³

3. Solid Waste Disposal⁴

a. Setting

The Oakland Scavenger Company is under contract with the City of Oakland to perform solid waste disposal for all properties located within the City. Solid waste is transported to the Davis Street Transfer Station in San Leandro, and then to a new 1600-acre landfill site at Altamont. The landfill site is owned by Oakland Scavenger Comapny and has a useful life of 70 to 96 depending on recycling. The company's service area includes most of Alameda County, serving a population of about 450,000. Oakland Scavenger hauls

about 1700 tons of refuse per day from within this service area.

 3 Request for this design was made in a letter from Engineering and Design Services of the

⁴Unless otherwise noted, all information for this section is based on telephone communications with Ron Proto, Engineering Manager of Oakland Scavenger Company, December 2 and 8, 1981.

By equating flow with water consumption, actual flow is somewhat lower

²Telephone conversation with Richard Kolm, Civil Engineer, EBMUD.

City of Oakland to the Planning Department, February 8, 1982.

b. Impacts

The project is expected to generate approximately 16,000 pounds of waste per business day from commercial sources, or about 2000 tons per year. Residential solid waste generated from the proposed project would be approximately 2400 pounds per day or about 438 tons per year. The total solid waste generated from commercial and residential sources annually (16,438 tons) would represent 2.6% of the 620,500 tons per year currently collected within the Oakland Scavenger Company's Service area. The Company does anticipate any adverse impacts on service or disposal capacity due to the project.

c. Mitigation

Recycling. Paper products constitute the largest portion of solid waste loads generated by office uses. Commercial paper-recycling operations are now in a growing industry of the Bay Area, and have made possible significant disposal load reductions for offices utilizing them. The project sponsor will encourage office space tenants to patronize a paper recycling service.

<u>Processing</u>. The solid waste collection and processing system for the project is as yet unspecified. Oakland Scavenger will be consulted on solid waste disposal matters during project design and development. In design consulting for the neighboring Downtown Oakland Convention Center/Hotel project, Oakland Scavenger's recommendations included:

- 1. It is expected that collection system will include the use of an on-site trash compactor. Such compactors reduce the need for frequent pick-up trips.
- 2. To the extent possible, refuse disposal areas should be centralized to reduce the number of compactors and of pick-up locations required.
- 3. In order to assure that garbage trucks serving the site do not operate below capacity, an automatic sensitizer should be installed in conjunction with the compactors. When the compactors become full, the switch would signal the customer's office, who would call Oakland Scaveger Company and cause trucks to be dispatched. The number of truck trips would thereby be minimzed, reducing collection costs as well as any impacts from truck traffic.

California Solid Waste Management Board, Solid Waste Generation Factors in California, Technical Information Series No. 2, July 8, 1974 for generation factors:

Commercial refuse | Ib/80 sq. ft. = 16,000 lbs/day

 $^{^{2}}$ lbid for generation factors (2.4 lbs/capital/day) 2.4 x 400 x 2.5 persons/dwelling unit = 2400

³City of Oakland, City Planning Department, <u>Final EIR/EIS</u>, Downtown Oakland Convention Center Hotel, February 1, 1980, Section 2.3, page 136.

4. Gas and Electricity

a. Setting

Natural gas and electricity are supplied to the project site by Pacific Gas and Electric Company (PG&E), East Bay Division. The PG&E service area extends to 47 of California's 58 counties and covers about 94,000 square miles of northern and central California. Electricity is generated by a combination of hydroelectric and thermal generating plants, with peak consumption running at about 15,000 megawatts in the entire service area. Natural gas is supplied from sources in California, Texas and Canada; current annual consumption is now about 809 billion cubic feet.

Electricity to the project site is distributed through PG&E's Substation C, located at 2nd and Grove Streets. The substation capacity is 180 megawatts, and is able to accommodate an additional transformer bank. Current peak demand within the substation's service area is about 100 megawatts.

b. Impacts

It is estimated that the project would generate an annual direct energy demand of 22.9 million Kwh of electricity and 622,360 therms of natural gas per year. The electrical demand would be about 20.4 million Kwh annual for the nonresidential uses and 2.5 million Kwh for the 400 apartment units. Natural gas demand would be approximately 222,350 therms annually for the nonresidential uses and about 400,000 therms annually for the apartments.²

c. Mitigation

The proposed project will be designed in accordance with the energy conservation standards of Title 24 of the California Administrative Code. The code requires that the structures comply with specified prescriptive standards for construction details such as required insultation, vapor barriers, window-glazing and infiltration. The project may incorporate alternative designs do not cause more energy to be consumed than would be consumed by designs based on the prescriptive method.

Data for this section is based on telephone communications with Al Stuebing, Industrial Power Engineer for PG&E, December 22, 1981, and from City of Oakland, City Planning Department, Final EIS/EIR Downtown Oakland Convention Center/Hotel, February 1, 1980, pages 130-131.

²For derivation see Section IV.H of this report.

1 5. Police Services

a. Setting

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The Oakland Police Department provides 24-hour emergency response and preventive patrol services to the project site. The Department divides the City into five patrol districts based on the number of calls for service. District I, in which the project site is located, thus accounts for about 20% of service demand City-wide. The District is 7 patrolled by a one-man radio car except for special time periods in which walking patrol coverage is provided by the Central District Detail. In 1980, the last complete year for which records are available, District I accounted for 5999 Select Part I Offenses (armed 10 robbery, strong-arm robbery, purse-snatch, commercial burglary, auto burglary, auto 1.1 clout, accessory theft and auto theft), or 22% of the total 27,733 such offenses. Furthermore, Beat 3, in which the project site is located, was the highest beat in the City 13 for five out of nine of these categories (armed robbery, strong-arm robbery, purse-snatch, commercial burglary, and auto burglary). 1,2

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17 b. Impacts

18 The proposed project will affect the types and frequencies of crimes which occur in the 19 project area. The extent to which it will affect the criminal activity and calls for service 20 in the area will be largely determined by:

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- 1. The detailed plans for design and construction of the project
- 2. The interface of the project with other proposed projects in the area
- 3. The extent to which security through environmental design is employed
- 4. The types and extent of security procedures, equipment and personnel utilized in operation of the project components; and
- 5. The mixture of people using the project facilities.

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c. Mitigation

In order to minimize the potential impacts of criminal activity on the project facilities and to reduce the need for additional police or private security personnel, the Police Department recommends that the following security measures be considered for incorporation within the project design:

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The information in this section is derived from a meeting between EIP and Lt. Frank Morris, Community Services Division, Oakland Police, Lt. R. Nichelini, and from a letter from Lt. Morris to C. Buckley, Oakland City Planning Department, April 27, 1979.

²Crime Statistics Bulletin No. 80-52, week of 7-13 December 1981.

- 1. Access and egress of vehicles and pedestrians should be controlled or observed by on-site security.
- 2. The project sponsors will be required to implement security enforcement measures cited in the City's <u>Commercial Burglary Prevention Ordinance</u>, Article 4 of the Oakland Municipal Code.
- 3. The Department encourages representatives of the project sponsor to meet with the Community Services Division to discuss:
 - general security problems
 - crime prevention techniques
 - crime prevention through environmental design
 - alarm and surveillance considerations
 - crowd and traffic control measures
- bomb threat procedures
- Police Department procedures and their relationship to activities at the Centre.
- 4. The Department recognizes that the large number of new office development projects will change the character of the Downtown area and is working on plans to increase police presence in the downtown area. Due to Proposition 13, the Department does not anticipate significant increases in revenues or resources to help satisfy this demand. In order to coordinate planning between the Department and interested businesses the Department is encouraging sponsors of new projects to discuss these needs, and to contribute to a Broadway Corridor program to increase presence. The possibility exists of creating a tax increment district to finance additional police resources.

6. Fire Protection

a. Setting

The project area is provided with fire protection service by the Oakland Fire Department. The closest station to the project site is Engine 12, at 822 Alice Street between 8th and 9th Streets. Engine 15 includes one engine company and one truck company. In the event of a fire, the initial response would include 3 engine companies, 2 truck companies and at least one chief officer. The first equipment would arrive at the scene within three minutes of receiving an alarm.

The Oakland Fire Department has an Insurance Service Offices Rating of "I", the highest rating given. Fire service throughout the City of Oakland may be summoned by dialing the Emergency 911 (Hotline) telephone number.

Unless otherwise noted, this section is based on information provided by Oakland Fire Department Fire Marshall Paul Bailey, through a telephone conversation on November 24, 1981.

b. Impacts

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Although highrise office and residential structures can present major fire-suppression problems, existing regulations in the Oakland Fire Code, the Oakland Building Code, and Title 19 of the California Administrative Code are expected by the Oakland Fire Prevention Bureau to preclude such problems in the case of the proposed project. On upper floors where fire-fighting equipment may not gain access from the outside high-rise fires are controlled from inside the building. Water pressure at nearby hydrants is considered adequate for Department needs. (See Section IV.G.I, Water Service).

It is difficult to estimate the precise demand for increased manpower or equipment that any given project presents. While one building may not pose a significant added problem, the addition of literally dozens of new large buildings presents challenges not yet fully known.² The Fire Department believes that their 4-minute response time standard can be maintained provided that the Fire Department remains adequately staffed and equipped; however, it is concerned that Proposition 13 limitations may endanger this capability:

"Passage of the California State Property Tax Limitation Initiative (Proposition 13) during the 1978 State primary election has restricted tax revenues to the City of Oakland, resulting in Fire Department budget reductions. The effects of the reduction have included closure of some fire stations outside the project area. Although continuation of the reductions could impair the Department's ability to adequately service the site, the levels of future Fire Department budgets cannot be predicted at this time owing to close dependance of the City of Oakland's budget on annual State appropriations of Proposition 13 "bail out" funds.³"

c. Mitigation

Required mitigation measures are prescribed in the Oakland Fire Code, the Oakland Building Code, and Title 19 of the California Administrative Code. The project will comply with all prescriptive measures required by these regulations. In addition, the project sponsor will implement a Fire Safety prevention and emergency response plan for the project buildings in cooperation with the Fire Marshall's Office of the Oakland Fire Department.

Environmental Impact Planning Corp., Final EIR, 315 Howard Street Office Building, EE.79.196, Certified August 21, 1989, p. 109.

²Letter to Oakland City Planning Department from Fire Marshall Paul Bailey, February 3, 1982.

³These funds have since been exhausted. This quote from the Fire Services Section of a 1980 EIR on a project located across the Broadway from the Trans Pacific Centre (City of Oakland, City Planning Department, Final EIS/EIR, Downtown Convention Center/Hotel, February 1, 1980).

7. Public Schools

a. Setting

The project site is located within the boundaries of the Oakland Unified School District. The appropriate public schools for children of project residents would be Lincoln Elementary School, Westlake Junior High School and Technical High School.

Lincoln Elementary, located 3 blocks from the project site at 11th and Jackson Streets, is one of the most severely overcrowded elementary schools in the district. Westlake Junior High School, located about 3/4 mile south of the project site at 27th and Harrison Streets is also over-capacity although this situation should be relieved when 9th graders are transferred to new facilities at Technical High School. Technical High School, located 2 miles north of the project site at Broadway near 45th Street, is undergoing renovations and is not expected to have adequate capacity.

b. Impacts

The program for the proposed 400 housing units has not been sufficiently determined to provide projections of public school impacts generated by the project. The demographic projections require data on the number of units of each size (1, 2 and 3 bedrooms) and the cost of the units. 2

It is anticipated, however, that few school-age children would live within the project site. Based on a full market value of \$240 million and the 1982 tax rate, the project would be expected to generate \$132,700 in annual property taxes dedicated to the District.

The information in this section is derived from a telephone conversation with Bob Long. Coordinator of Property Management for the Oakland Unified School District, January 8, 1981.

²Telephone conversation with Bob Long, Coordinator of Property Management, Oakland Unified School District, January 7, 1982.

8. Public Revenues

a. Setting

Direct public revenues accruing from present use of the project site include rental income, income from a public parking lot and utility user's tax receipts. The project does not generate property tax or gross rental receipts revenue presently, since it is owned by the Redevelopment Agency, a public agency. The project does not generate sales tax revenue since there are no retail businesses on the site.

Total public revenue generated by existing uses of the site was \$84,488 in 1981. This figure included \$84,000 in rental and parking operations income to the Redevelopment Agency, and approximately \$488 in utility user's tax income to the City of Oakland.

b. Impacts

Direct public revenues generated by the proposed project are estimated to be about \$3,768,600 annually in 1982 dollars. The City of Oakland's share of this would be about \$655,500, while the County of Alameda would receive about \$2.4 million annually. This would represent an increase of approximately \$3.7 million annually over current uses.

Additional revenues would include sales tax revenue and one-time revenues deriving from development of the project. Sales tax revenues are not projected here because they are highly dependent on the type and quantity of retail floor space provided in the project, factors which have not been determined in this stage of project development. One-time revenues would include permit, building, and inspection fees, and a \$1,000,000 contribution to City job-training programs proposed by the project sponsor.

Direct public revenues generated by the project would include property tax, utility user's tax, and gross rental receipts. Tax revenues were calculated using the following methodologies:

Telephone communication with Peter H.Y. Chen, Project Manager, Chinatown Redevelopment Agency, Office of Economic Development and Employment, City of Oakland, January 14, 1981.

²Actual utility user's tax data were not available for existing businesses on the project site. They were estimated as 0.2% of the projected utility user's tax on the proposed uses. The 0.2% rate was based on the estimated 32,000 gross square feet of building space in use representing 0.2% of the 1,600,000 of nonresidential space in the proposed project.

Property Tax: The project would have an assessed value of approximately \$240 million (in 1982 dollars). Revenue from the 1.3% non-bond property tax rate would be about \$3,152,700 at the time of completion, and would rise at 2% each subsequent year, according to the formula prescribed by enactment of Proposition 13. Property tax revenues would be distributed according to the following shares among 5 public agencies:²

8	Agency	1982 Tax Rate	Property Tax Revenue
9	Alameda County	1.0000%	\$2,400,000
10	manieda esoni,	1 * 00 00 /0	72,400,000
11	City General Fund	.1622	389,300
12	Oakland Unified		
13	School District	.0553	132,700
14	Community College District	.0264	63,400
15	D A D: d		
16	Bay Area Rapid Transit District	.0697	167,300
17		1 2124	
18		1.3136	\$3,152,700

Gross Rental Receipts: Gross rental receipts revenue deriving from the project are estimated at \$350,000 in 1982 dollars. Accurate estimates of gross rental receipts revenue are difficult to estimate before completion and leasing of the project, since they are dependent on rental rates and the type of business to which the space is leased; there are 17 different tax rates for different types of business. For this estimate a mid-range tax rate of 1.4% was utilized, and it was assumed that the project's commercial space was rented at an average rate of \$20.00 per square foot annually. This rental rate was assigned on the basis of 1982 rental rates for prime and recently built office space in downtown Oakland. The rentable area was estimated as 1.25 million square feet.

Based on estimated cost of construction. The final assessed real value could well be higher, but this is the best datum available at this time.

²Telephone conversation with Ben Morita, Deputy Auditor, Alameda County, January 12, 1982.

³Telephone conversation with Mark Mathieson, Business Office, City of Oakland, January 7, 1982.

⁴Current office rental rates were noted from the Oakland Chamber of Commerce Office Building Inventory, February 1981.

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Utility User's Tax: Utility user's tax is paid at the rate of 5.5% on bills for electricity, gas, and intra-state telephone service. Utility user's tax generated from the proposed project is estimated to be approximately \$265,900 annually in 1982 dollars. The income generation projection was developed using the following assumptions:

Gas & Electric-Commercial

Base Charge/Month = \$550

Electricity: 1.7 million kwh/month @ 9.9¢/kwh = \$168.300

Gas = 18.350 therms/month @ 48.62c/therm² = \$8.922

Monthly bill = \$550 + 168,300 + \$8,922 = \$177,772

Yearly bill = $$177,772 \times 12 = $2,133,264$

Tax revenue = $$2,133,264 \times 5.5\% = $117,330$

Gas & Electric-Residential

Monthly consumption/unit: 417 kwh electric, 67 therms gas

Monthly bill/unit: $$38.00 \text{ electric} = $29.64 \text{ gas} = 67.64^3

Yearly bill, all units: $$67.64 \times 12 \times 400 = 324.672

Tax revenue: $$324,672 \times 5.5\% = $17,857$

Telephone Service: Utility user's tax is collected only on the intra-state portion of residential and commercial telephone bills. Since the tax receipts are paid directly by Pacific Telephone to the City, it is difficult to accurately disaggregate phone tax data for prediction purposes. In order to provide a rough estimate, it was assumed for this projection that each residential telephone would generate \$15/month of intra-state telephone charges per month, and each business telephone \$30 per month. The number of commercial service telephones was estimated using the same rule-of-thumb used in estimating employment generated, i.e., I employee per 250 gross square feet of commercial space.

Residential: $$15 \times 400 \times 12 \times 5.5\% = $3,960$ annually

Commercial: (1.6 million/250) = 6,400 telephones

 $6,400 \times $30 \times 12 \times 5.5\% = $126,720$

Total telephone service tax: \$130,680

Average rate for large commercial user = 9.9¢/kwh. Source: telephone conversation with Nancy Elbing, Customer Service Representative, Pacific Gas & Electric, January 14, 1981.

²G-50 gas charge for commercial users (same source as 1).

³Customer bill for residential users consuming 417 kwh electricity and 67 therms gas per month (same source as 1).

I. ENERGY

I. Setting

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PG&E obtains a portion of its electrical energy from renewable resources, including geothermal and hydroelectric power; it will meet new energy demands from Northern California customers primarily by increasing the use of coal, oil, natural gas and nuclear power.

Energy currently is consumed at the site by a residential hotel and several small businesses.

2. Impacts

The project consists of a tower, for which detailed energy projections are available, and two smaller buildings for which engineering analyses of energy use have not been performed.

a. Office Tower

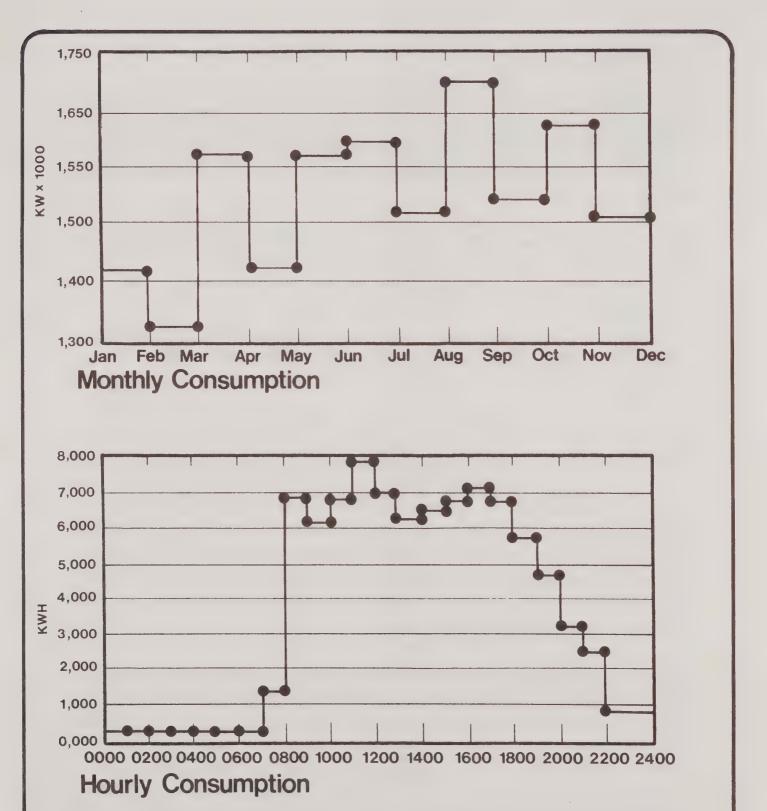
The office tower's estimated average monthly electrical consumption would be 1,500,000 kilowatt hours (Kwh), equivalent to 0.96 Kwh per square foot of interior floor area, based on the following assumptions: connected lighting load of 2.5 watts per square foot in airconditioned space, and 1.0 watt per square foot in unconditioned space; variable air volume air conditioning; outside air return economizer cycle; 88% power factor for elevators, 85% power factor for plumbing motors, insulation in accordance with Title 24, the connected kilowatt load is estimated to be 15,000 Kw. Daily and annual load distribution curves are shown in Figure 69.

The estimated daily natural gas consumption for the tower is 43 BTU2 per square foot of interior floor area. The magnitude of the estimated peak natural gas demand for the project would be 1238 therms³ per day. Daily and annual load distribution curves are given in Figure 70.

Pacific Gas and Electric Annual Report to Shareholders, San Francisco, California, 1980.

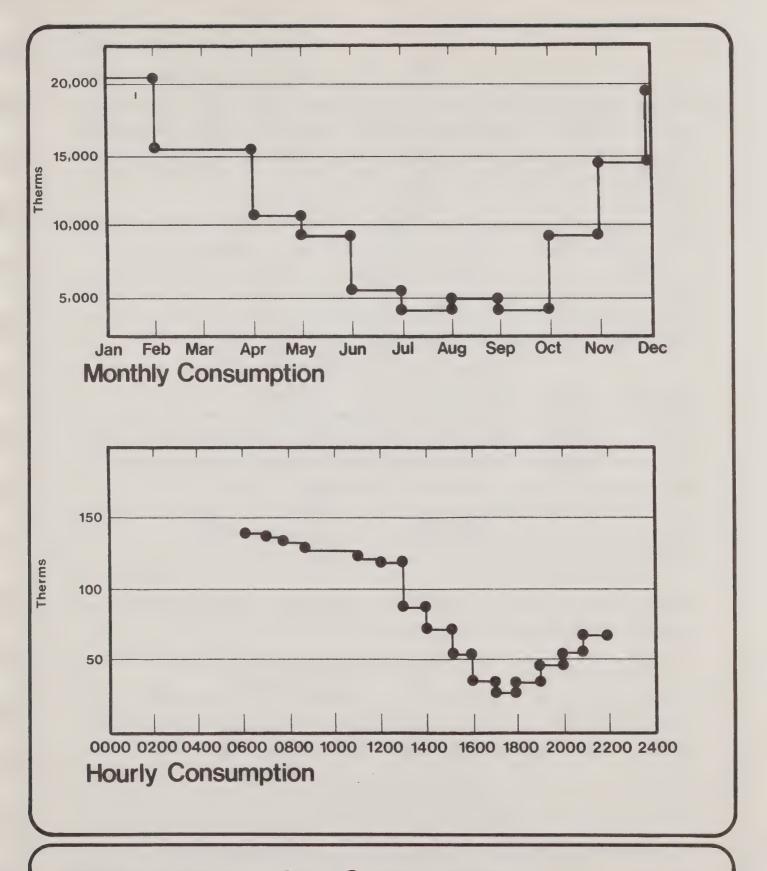
²⁰ne BTU is approximately the amount of energy released by burning a kitchen match.

³One therm is equal to 100,000 BTU.



Tower Electrical Consumption

Figure No.69



Tower Natural Gas Consumption

Figure No.70

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Electricity demand peaks in August at 11 a.m. to 12 noon, when demand for electricity is high systemwide; PG&E's system peak occurs in August at 4 P.M., which is also a period of high demand for the project. Natural gas peak demand would occur on January mornings; PG&E's systemwide peak occurs on January evenings.

The major energy-conserving features of the tower would be the variable air volume (VAV) air conditioning system and the outside air/return air economizer cycle. The VAV system would allow the volume of conditioned air to be reduced at periods of reduced demand; the economizer cycle would select the correct mixture of outside air and recycled air for minimum energy consumption while satisfying the ventilating, heating and air conditioning demands of the interior of the building.

The project is required to comply with Title 24 of the California Administrative Code! regarding energy consumption at new nonresidential buildings. Compliance is established at the time of application for the building permit by one of two methods. The component performance standard method allows compliance by inclusion of a series of specified design features;² the energy budget method allows compliance by analysis of the building's energy use with a state-approved energy analysis program and demonstration that the energy consumption of the systems covered by the regulating would be less than a prescribed quantity (126,000 BTU per square foot of conditioned space, in this case).

The proposed tower would use 115,000 BTU per square foot of conditioned space per year and would therefore be in compliance with Title 24.

Residential Buildings b.

The residential spaces, as well as the commercial and office spaces, would be required to comply with Title 24 of the California Administrative Code. This code requires that the structure comply with specified prescriptive standards regarding the details of the construction of the building such as required insulation, vapor barriers, glazing and infiltration. The building may incorporate alternative designs if these designs do not cause more energy to be consumed than would be consumed by a building built according to the prescriptive method.

California Energy Commission, Conservation Division, Regulations Establishing Energy Conservation Standards for New Non-residential Buildings as Amended July 26, 1978. Sacramento, 1978, page 5.1.1.

²¹bid.

Unlike the specific energy consumption limits imposed by Title 24 (energy budget method) upon nonresidential buildings, for residential buildings Title 24 does not specify a maximum allowable limit. As a result, it is not possible to report a specific consumption rate that would not be exceeded by the proposed structures. In lieu of this, it is useful to present typical levels of energy consumption in similar buildings. Since the proposed structure would be likely to be more energy conservative than existing buildings, these consumption rates are likely to provide an upper limit on the actual energy use of the proposed project.

Using this approach, the annual energy consumption of the proposed residential structures would be expected to be less than approximately 5000 Kwh of electricity and 800 therms of natural gas per residential unit. This would result in a total annual consumption of 2.5 million Kwh of electricity and 400,000 therms of natural gas.

Energy would be used for trips generated by the project. Based on an estimated 200,000 VMT per day and an average fuel economy of 20 miles per gallon, approximately 3,400,000 gallons of gasoline would be used annually.

Construction energy cost would be 480 billion BTU (equivalent to 78,000 barrels of oil) for the entire project, based on a construction energy cost of 2000 BTU per 1981 dollar.²

3. <u>Mitigation</u>

In order to further reduce the energy consumption of the office tower, the following measures would be considered:

- Energy-saving ballast and lamps.
- Multiple switching and use of daylight.
- Centralized control of lighting through a building automation system.
- Floor-by-floor tenant metering.

Contra Costa County Planning Department, <u>Energy Conservation Guidelines for Evaluating New Development in Contra Costa County, California, Martinez, California, 1976.</u>

²Tetra Tech, Incorporated, Part I. Analytical Approach, Energy Use in the Contract Construction Industry. Appendix A, Study Methodology, Springfield, Virginia, NTIS, February 18, 1975, page 3. The conversion ratio used was 2,000 BTU/1981 dollar.

 The first three measures would reduce energy consumption by providing more energy-efficient lights and by allowing a greater degree of flexibility in their use. Floor-by-floor tenant metering encourages energy conservation by providing clear information concerning the energy consumption of specific tenants.

Mitigation measures to reduce the energy consumption of the residential buildings have not yet been identified because the engineering designs have not been finalized. Potential energy mitigation measures would be identified and evaluated as the design work proceeds.

Mitigation measures identified in the transportation section of this report which would reduce the number of vehicle miles traveled would concomitantly reduce gasoline consumption.

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J. GEOLOGY, HYDROLOGY AND SEISMICITY

1. Setting

The project area is generally level ground at approximately elevation +38 feet Oakland City Datum (OCD). 1

The identification of sediments underlying the project site and their engineering properties is important for the design of foundations and for prediction of responses of the soils and buildings during earthquake-induced groundshaking. The site is underlain by up to 1000 feet of sediments resting on bedrock of the Franciscan Assemblage, which consists of hard sandstone with large boulders of a variety of volcanic, metamorphic and sedimentary rocks. The Franciscan Assemblage was at the ground surface about 2 million years ago, but has been subjected to tilting and faulting which created San Francisco Bay and the ridges along the East Bay. Weathered rock material from the newly formed ridges became sediments which, along with clays and silts being carried into the Bay from the Delta, washed down and buried the Franciscan Assemblage.

In a 1978 geotechnical engineering investigation of the site, 14 soil borings to a maximum depth of 101.5 feet were made.² At depths ranging from 101.5 to 75 feet, hard silty clays possibly from the Older Alameda Formation were encountered; these sediments have a relatively high plasticity. On top of the Older Alameda Formation is the Recent Alameda Formation in various thicknesses, generally occurring in depths of 30 to 75 feet; these sediments consist of alternating marine and terrestrial, very dense silty to clayey sands and very stiff to hard silty clays. Atop the Recent Alameda Formation is 40 feet of the Merrit Sand Formation, which generally consists of dense to very dense fine to medium-grained sand containing various amounts of silt and clay. These deposits were formed as wind-blown sand dunes along the shore of the Bay. Later, a thin soil cover developed that permitted the growth of trees and grasses. On the site, fill material has been placed on top of the sand; the fill varies in thickness from a few feet to 16.5 feet and is generally poorly to moderately compacted.

Oakland City Datum is 2.998 feet below mean sea level.

²Associated Geotechnical Engineers, Inc., Geotechnical Engineering Investigation for Hong Kong/U.S.A. Project, Oakland, California, Project No. 100-2, SJ-2610. San Jose, September 13, 1978.

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During the 1978 geotechnical investigation, which was conducted during the summer, around water was encountered at depths varying from 26 to 30 feet below street level (or +8 to +12 feet OCD. During winter ground water generally rises 2 to 4 feet and could therefore be expected to be encountered at depths of 22 to 26 feet below the surface.

Two main BART tunnels were constructed in the sediments underlying the project site. The location of these tunnels is shown in Figure 72.

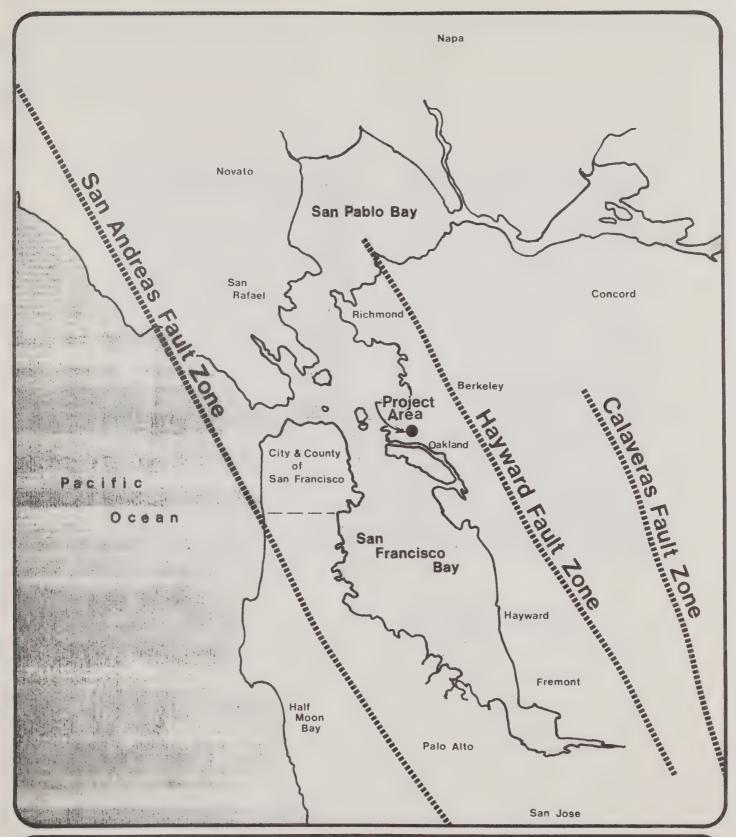
The project site, like the entire Bay area, is in a seismically active region. There are 3 recently active faults capable of causing ground shaking on the project site. The San Andreas Fault, the Hayward Fault and the Calaveras Fault are located about 15.5 miles southwest, 3.5 miles northeast, and 13.5 miles northeast of the site, respectively (see Figure 71). These faults have in the recorded past produced earthquakes of Richter magnitudes 8.3 and 6.7. It is estimated that the faults are capable of producing earthquakes of Richter magnitude 8.3 (the San Andreas) and 7.5 (Hayward and Calaveras). There are no known active faults traversing the project site. The site is not within any Alquist-Priolo Special Study Zone.²

2. Impacts

The proposed project would not impact the geological regime, save for disturbing the underlying sediments for foundations. The existing geologic, hydrologic and seismic conditions in the area would pose constraints on the project that would require special design considerations for project implementation. In addition, geologic conditions would affect construction as well as the life-time of the completed project.

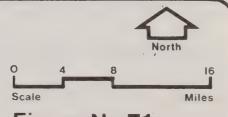
Greensfelder, R. W., Maximum Credible Rock Acceleration from Earthquakes in California. California Division of Mines and Geology Map Sheet 23; 1974.

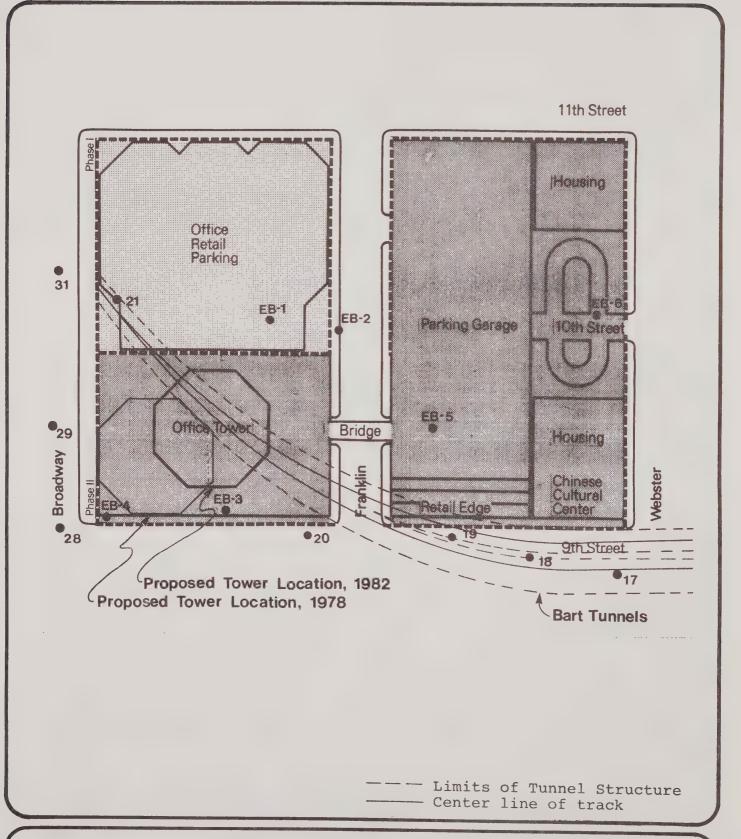
²This zone has been defined by the legislature as a quarter-mile-wide strip following the trace of any active fault. Construction within this zone is subject to special geotechnical studies, and buildings destined for human occupancy are prohibited within 50 feet of the known trace of an active fault.



Active Fault Zones in the San Francisco Bay Area

Source: U.S. Geological Survey/Brown, 1970





Approximate Location of Selected Soil Borings

During construction, excavation would be complicated by the location of the BART tunnels traversing the site. In the 1978 geotechnical report recommendations were made regarding excavations near the BART tunnels; however, since that report was completed the lay-out of the project has been changed. The 68-story tower in the southwest corner of the project site was moved northeast, placing the proposed structure directly on top of the BART tunnels rather than tangent to the tunnels, as was proposed in 1978. The problems previously anticipated regarding excavation and foundation designs for this part of the proposed project and discussed in the geotechnical engineering report have therefore changed, and specific design criteria recommended in the report would no longer be exactly applicable.

In general, the geotechnical parameters to be taken into account in excavating and building on the site would include: bearing capacity of the subsurface material, subsidence and differential settlement, deformation (rebound) of in-place subsurface materials following removal of the overburden, and lateral deformation of subsurface materials around the excavation pits.

When a building is constructed over the sedimentary Bay muds it can be expected that the sediments will subside in response to the load placed on them. Preliminary analysis in the 1978 geotechnical investigation estimated that subsidence on the order of 1/2 to 1 inch can be anticipated; differential settlement between exterior walls and interior foundations could be up to 3/4 inch.

For the proposed 2-level underground garage, excavations to about 28 feet below ground surface would be made. When a large amount of overburden is removed, the sediments in the bottom of an excavation pit respond by "rebounding." It has been estimated that up to 2 inches of rebound could occur in the center of the excavations proposed. The rebound would occur as the overburden is removed and would thus not influence the constructed buildings. However, rebound could influence the stress geometry around the BART tunnels.

Lateral deformation could occur alongside the excavated areas (and would be seen as cave-ins at the sides of the excavation). Since excavation would occur adjacent to streets, buildings and BART tunnels, this could cause subsidence and possibly cracking of street surfaces and changes in the stress geometry surrounding building foundations and tunnels.

 Ground water in the project area was found at 26 to 30 feet below the ground surface during the summer of 1978. It is expected that excavations for the proposed project would reach depths of 28 feet, so it is possible that ground water would be encountered during construction. This is even more likely if excavation were to occur during the winter months, when the water table rises from 2 to 4 feet above the summer level. Dewatering of excavation pits could result in drawdown of the water table and potential distress to the BART tunnels and adjacent building foundations.

In the event of an earthquake occurring along one of the active faults in the vicinity, the project site could be subjected to very strong groundshaking. A seismic design study was completed for the proposed project as part of the 1978 geotechnical engineering investigation. The study modeled the effects of seismic events on the project area, considering the following parameters: (1) location of all faults (a total of 20 faults in Northern California were examined), (2) behavior of these faults, (3) geographic distribution of past earthquakes, (4) local depth characteristics for each fault, and (5) maximum credible event for each fault. For a maximum credible earthquake, which is the maximum earthquake that is likely to occur during the life of the proposed project (estimated to be between 50 and 100 years), the peak ground acceleration was estimated to be up to 0.30 G (G = the force of gravity) for an Earthquake Level II and up to 0.46 G for an Earthquake Level 1.2 Based on these ground accelerations, it is not expected that the proposed project and its surroundings would be subjected to liquefaction in the event of a severe earthquake along any of the 20 faults examined in the Northern California area. (Liquefaction, one of the most serious hazards of earthquakes, usually occurs as a result of groundshaking in saturated, loose to moderately dense sand; as the shaking soil compacts, an increase in water pressure results in the material acting as a liquid, or "quick" sand.)

Borcherdt, R.D., et al., <u>Maximum Earthquake Intensity Predicted for Large Earthquakes</u>, <u>Southern San Francisco Bay Region</u>, U.S. Geological Survey Map MF-709, 1975, Sheet 2.

²Earthquake Level II refers to that magnitude earthquake that has a 50% probability of being exceeded during the economic life of a project. Earthquake Level I refers to that magnitude earthquake that has a 10% probability of being exceeded during the economic life of a project.

Tsunamis, or great sea waves, can be generated by any large-scale, short-duration earthquake, primarily on the ocean floor. The tsunami effects along the California coast from offshore earthquakes are usually manifested by rapidly changing tides. The project site is not located in an area subject to inundation by tsunamis.2

3. Mitigation

The geotechnical engineering report prepared for the project in 1978 assumed that the tower would be placed adjacent to the BART tunnels and foundation recommendations were made based on that assumption. Since the tower has subsequently been proposed directly above the BART tunnel, additional geotechnical work is recommended. Possible changes to the proposed foundation design necessitated by this move could require further soil exploration to depths greater than 101.5 feet to ascertain the loading capability of the subsurface material.³ No further geotechnical exploration has been authorized.⁴

To eliminate impacts on the BART tunnels, BART requires that the following guidelines be used in the design for the proposed project.⁵

- -- Pile or deep foundation shall not be placed within 7.5 feet of the exterior face of BART tunnel structures, nor between the tunnels. Predrilling piles and deep foundations to a depth to be determined by BART would be required.
- -- Construction of slurry wall method adjacent to BART tunnel structures shall take into consideration the effect of redistribution of earth pressures upon the existing BART tunnel structures.

Pierzinski, Diane, "Tsunamis," California Geology, March 1981.

²City of Oakland, "Environmental Hazards," <u>Oakland Comprehensive Plan</u>, 1974.

³Billy M. Lin, Civil Engineer, Associated Geotechnical Engineers, Inc., telephone conversation, December 30, 1981.

⁴John Tatum, Architect, Skidmore, Owens & Merrill, telephone conversation, December 29, 1981.

⁵ Associated Geotechnical Engineers, Inc., op. cit.

- -- A building shall be considered to be adjacent to the tunnel structures when the distance from the building limit to the nearest face of tunnel structures is less than 1.5 times the depth of the tunnel invert below the building foundation.
- -- In no case shall additional loads be imposed on the existing BART tunnel structures than those originally designed for.
- -- Detailed drawings, specifications, design calculations and construction staging of foundation structures adjacent to BART tunnel structures shall be submitted with sufficient time for complete review and approval.

In addition, the tunnels may be damaged by vibration caused by pile-driving for the foundation of the proposed project. It is recommended that a vibration-monitoring program be established and that a vibration analysis be conducted.

To mitigate impacts regarding lateral and vertical deformations of excavation pits, settlement during and after construction, and to assure seismic integrity of the buildings, the recommendations in the 1978 geotechnical engineering report as well as any addenda should be adhered to.

To minimize impacts from dewatering of excavation pits, it is recommended that construction take place in the summer months, when the ground water table is at its lowest.

A. TRAFFIC AND TRANSPORTATION

The proposed project would generate 2180 p.m. peak hour vehicle trips, causing increased congestion at local street intersections particularly at the intersection of 14th Street and Broadway. Traffic would be heavy along Broadway, Webster and Franklin Streets. Peakhour patronage on AC Transit would be increased about 11% and BART peak-hour load factors would be raised from 10-20%. Although a parking garage of 2000 spaces is proposed parking demand generated by the project would still exceed supply by about 1750 spaces.

V. UNAVOIDABLE ADVERSE IMPACTS

B. NOISE

Increases in traffic associated with the proposed project would raise noise levels along nearby streets. In particular, noise levels along Franklin Street would be increased by about 3 dB, which would be a detectable difference.

C. VISUAL QUALITY AND URBAN DESIGN

The 68-story tower will dominate Oakland's Skyline. Views from adjacent structures will be blocked or interrupted. Visual transition is needed between the 6-story Phase I tower and the 68-story Phase II tower.

D. SHADE AND SHADOW

Rising to a height of 1000 feet the proposed office tower would cast a narrow but significant shadow. Depending on the time and season the shadow could extend as far as ½ mile beyond its base. The plaza along 9th Street would be shaded by the 15-story City Center Towers through most of the year.

E. MICROCLIMATE

The project would increase winds south of the site. Near the south side of the office tower winds would be up to double the ambient wind speed, based on wind tunnel tests.

F. ENERGY

Energy, in the form non-renewable resources, would be consumed during construction and operation of the buildings. Construction energy cost would be 480 billion BTU (equivalent to 78,000 barrels of oil) for the entire project. The proposed office tower's monthly electrical consumption would be 1,700,000 kilowatt hours (kwh). The annual energy consumption of the 2 residential towers would be around 5000 kwh of electricity and 800 therms of natural gas per residential unit.

17 G. GEOLOGY

Excavation would be complicated by the location of the BART tunnels directly under the proposed office tower.

VI. GROWTH-INDUCING IMPACTS

The proposed project would have significant growth-inducing impacts in the surrounding area and in the City of Oakland. Provision of 1.6 million gross square feet of new office and commercial space would permit the creation of 6400 new jobs on-site. The housing units would increase the local population by 400 households.

In addition, the project would act in combination with other nearby projects such as the City Center and the Convention Center to significantly increase the cumulative growth of business activity and daytime population in the downtown CBD. (See Figure 73).

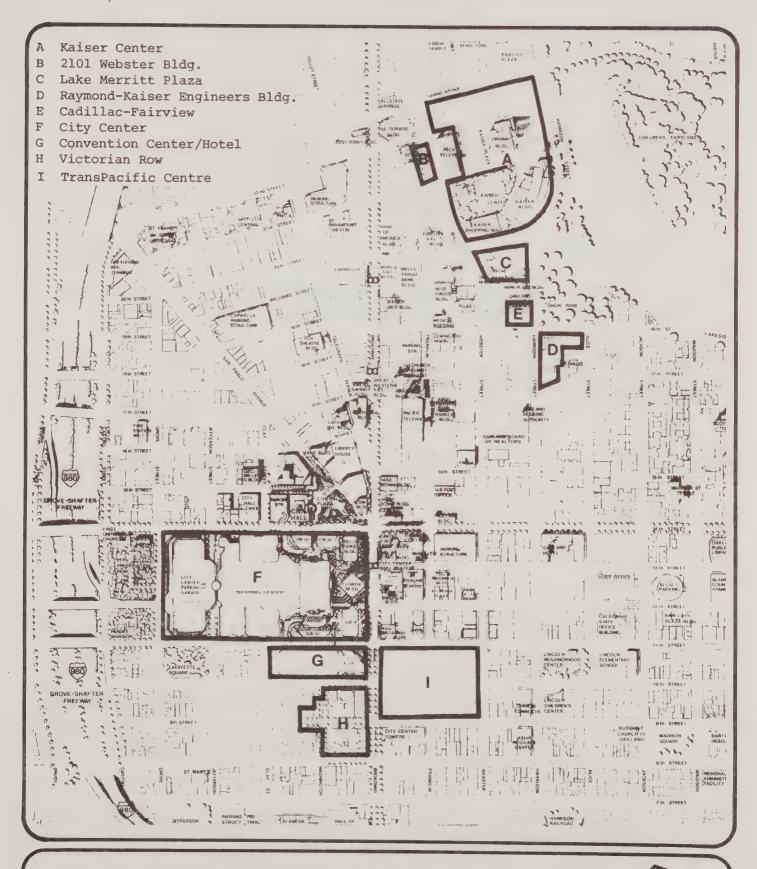
The most significant primary impacts of this new growth would be in the areas of transportation and air quality. These impacts are described in Sections IV. A and IV. B of this report.

Indirect impacts would include the creation of secondary employment in retail, service and business-support activities. The Association of Bay Area Governments reports that office employment has a regional multiplier effect of 1.2, suggesting that the project could indirectly foster the creation of 7680 new jobs in the San Francisco Bay Area.²

Other important secondary effects will be on businesses and land uses in the area. Depending on future demand for office space, the project does have the potential for creating a local surplus of office space in the short term. It is expected that this project in combination with other nearby projects would stimulate local business activity and increase nearby land and lease values.

This estimate was arrived at using the rule of thumb that one job is generated per 250 square feet of high rise office space.

²Cooperative Extension Service University of California, <u>Bay Area Input-Output Model</u>, Berkeley, 1974.



Projects Under Consideration In Downtown Oakland

Prepared by the SWA Group, Landscape Architects for the Oakland Redevelopment Agency, 1981. Used with permission of the Oakland Redevelopment Agency.



VII. ALTERNATIVES TO THE PROPOSED PROJECT

A. "NO-PROJECT" ALTERNATIVE

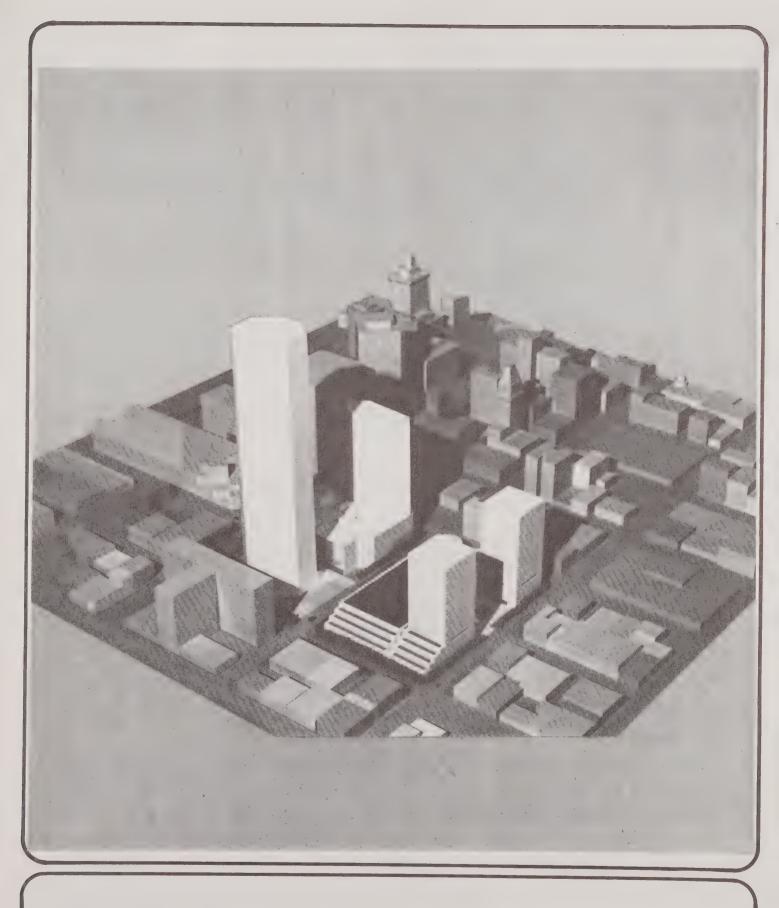
This alternative, as defined by the California Environmental Quality Act, would entail no change to the project site as it now exists. Current conditions on the project site are the result of actions taken in implementation of the Central District Urban Renewal Plan's Chinatown Project; most of the buildings that once used the site have been cleared in anticipation of this project. The "no-project" alternative would leave the 3 blocks proposed for Phase II of the project more than 90% vacant.

The "no-project" alternative would conflict with the policies and goals of the Oakland Comprehensive Plan, which are intended to encourage new business activity and job development in the area. The Land Use Element of the Comprehensive Plan specifies the site area as one in which high-intensity land uses are to be encouraged. The "no-project" alternative would imply foregoing at this time the development of approximately 6000 office jobs and 400 new housing units. The "no-project" alternative would also conflict with the objectives of the Chinatown Project of the Central District Urban Renewal Plan, which was the rationale for public actions to acquire and clear the project site.

B. ALTERNATIVE I: OFFICE SPACE ELEMENT IN TWO TOWERS

I. Description

Under this alternative the office space program would be housed in 2 tower structures rather than the single 68-story tower proposed (see Figure 74). A 20-story tower would be constructed over the existing 6-story Phase I building and a 45-story tower on the site immediately south. The total building program in this scenario would not be substantially changed (see Table 21); the housing component would feature 400 units in 2 towers.



Alternative 1

SOURCE: EIP Corp.

TABLE 21
BUILDING PROGRAM OF ALTERNATIVES COMPARED

	Proposed Project	Alt. I	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Housing							
Units	400	400	400	400	600	200 - 400	400
Gross Square Feet	512,270	512,270	512,270	512,270	512,270	256,135-512,270	512,270
Retail and Civic Areas							
Gross Square Feet	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Parking Spaces	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Office Building							
Number of Structures Number of Stories	1 x 68	1 × 20 1 × 45	1 × 20 2 × 25	I × 68	1 × 68	1 × 68	I × 45
Gross Square Feet	1,492,872	1,380,000	1,015,000	1,492,872	1,492,872	1,492,872	1,050,000
Efficiency	76%	84%	84%	76%	76%	76%	84%
Usable Square Feet	1,135,000	1,158,000	848,000	1,135,000	1,135,000	1,135,000	882,000

2. <u>Mitigation Measures Incorporated Into the Alternative</u>

- a. Alternative I would provide a more unified design than the other alternatives and than the proposed project in terms of bulk.
- b. Alternative I would continue the line of the downtown skyline and be less disruptive than the proposed project.
- c. Trip generation and parking demand would be about 1% to 2% greater than in the proposed project (see Table 22).

3. New Impacts Created by the Alternative

- a. Shadows from the 45-story tower would fall on the 20 story Phase I addition and on the roof of the 6-story Phase I building. If this roof were developed as open space, shadows would make it less attractive. Shadows from the 2 towers would also fall on Broadway, extending north towards 12th Street.
- b. Shadows from the Phase I addition would darken 11th Street.
- c. The 2 office towers would block each other's views and would add to the effect of visual wall when the overall development was viewed from adjacent downtown buildings.
- d. This alternative would provide for less of a regional landmark than either the proposed project or Alternative 2.

4. Reasons Not Selected

- a. Because the foundation platform for additions to the Phase I building is designed for 15,000 square foot floors, floor sizes for the 20-story addition proposed in this alternative would be limited to this size. This would result in limited leasable floor sizes in this building which would make them difficult to lease.
- b. The shadows and view obstructions from the 2 buildings would also make them less attractive to lease.
- c. The 45-story tower would not differ sufficiently in size from the adjacent 26-story building to create the desired "landmark" building on the Oakland skyline.

TABLE 22

TRIP GENERATION AND PARKING DEMAND OF ALTERNATIVES TO PROPOSED PROJECT

				Alternatives			
	Proposed Project	#1	#2_	#3_	#4_	<u>#5</u>	#6
Daily Person Trips	25,300	25,700	20,000	25,300	26,900	23,800	20,600
P.M. Peak Hour Person Trips							
AutoA.C. TransitBARTOther	2,440 700 1,500 50	2,480 720 1,530 50	1,890 550 1,160 30	2,440 700 1,500 50	2,540 730 1,570 40	2,340 680 1,450 40	1,950 560 1,200 40
- TOTAL	4,690	4,780	3,630	4,690	4,880	4,510	3,750
Parking Demand							
Long Term SpacesShort Term Spaces	2,840 720	2,890 730	2,230 570	2,840 720	3,040 750	2,640 690	2,300 590
- TOTAL	3,560	3,620	2,800	3,560	3,790	3,330	2,890

Source: DKS Associates

C. ALTERNATIVE 2: OFFICE SPACE ELEMENT IN THREE TOWERS

I. Description

This alternative locates the office space program in 3 towers rather than a single tower as proposed. The housing element and the overall building program would be as in the proposed project (see Figure 75). The towers would include the 20-story addition to the Phase I building (described in Alternative I), and two 25-story towers on the site of the proposed 68-story tower. The 2 office towers would take the form of irregular trapezoids, a form dictated in part by the need to avoid the BART tunnels in placement of the foundation. Because the overall building program for this alternative is not substantially changed, transportation impacts would be similar to those for the proposed project.

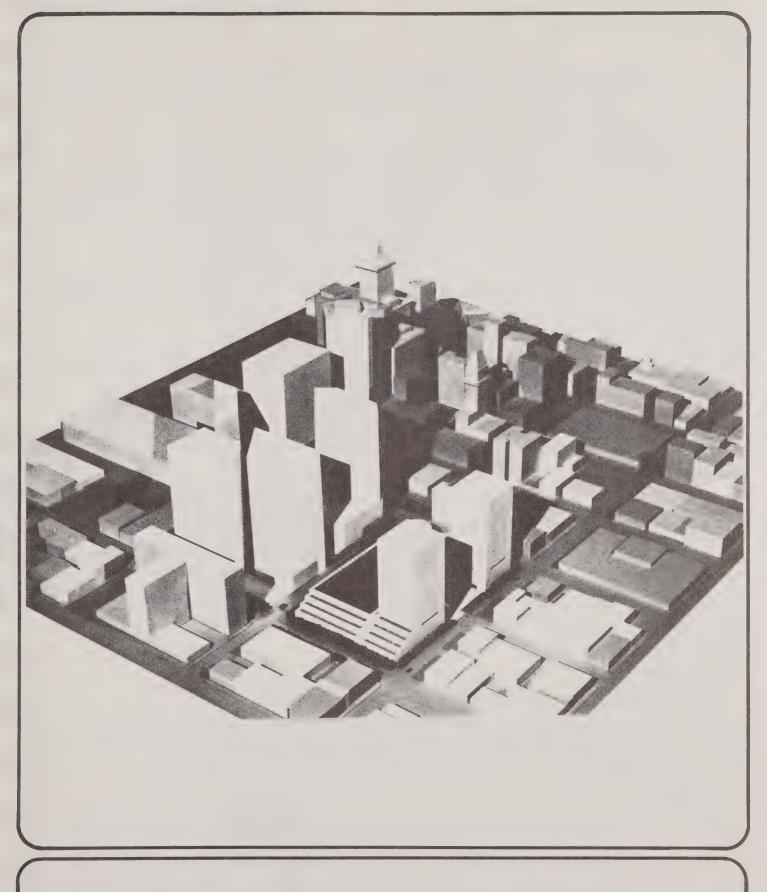
As the overall building program would not be significantly changed, this alternative would differ from the proposed project in its urban design and visual quality impacts.

2. Mitigation Measures Incorporated Into the Alternative

- a. Alternative 2 would provide a unified design in terms of height. Each of the 4 tower buildings would be approximately 300 feet tall and would be similar in height to neighboring structures in the downtown core. This 4-tower configuration would create a visual wall and block views from existing downtown buildings.
- b. The 4 towers would continue the line of the downtown skyline from the north to the south.
- c. The trip generation of this alternative would be about 21% less than that of the proposed project. Parking demand would be reduced at the same ratio (see Table 22).

3. New Impacts Created by the Alternative

- a. This alternative would provide less of a visual landmark.
- b. The 2 adjacent 25-story office towers would relate in height to the City Center Tower residence, unlike the proposed 68-story tower. They would completely block all residents' northward views.
- c. This alternative would provide the least amount of street-level public open space. Any open space developed on the 6-story Phase I building roof would be frequently shaded and therefore under-utilized.



Alternative 2

SOURCE: EIP Corp.

d. This alternative would most severely impact Franklin Street's pedestrian environment by adding a canyon-like wall of buildings along its west side.

4. Reasons Not Selected

- a. This alternative was rejected by the project sponsor because of problems with floor sizes and internal circulation. The two 25-story towers would have floors of 14,300 gross square feet, compounding the small floor size problem described for Alternative I.
- b. Internal circulation would be hampered by the need to diagonally bisect the site with unbuilt space in order to avoid the BART tunnels.
- c. The project would produce 5 buildings of almost identical height rather than the desired landmark building.

D. ALTERNATIVE 3: HOUSING ELEMENT IN A SINGLE STRUCTURE

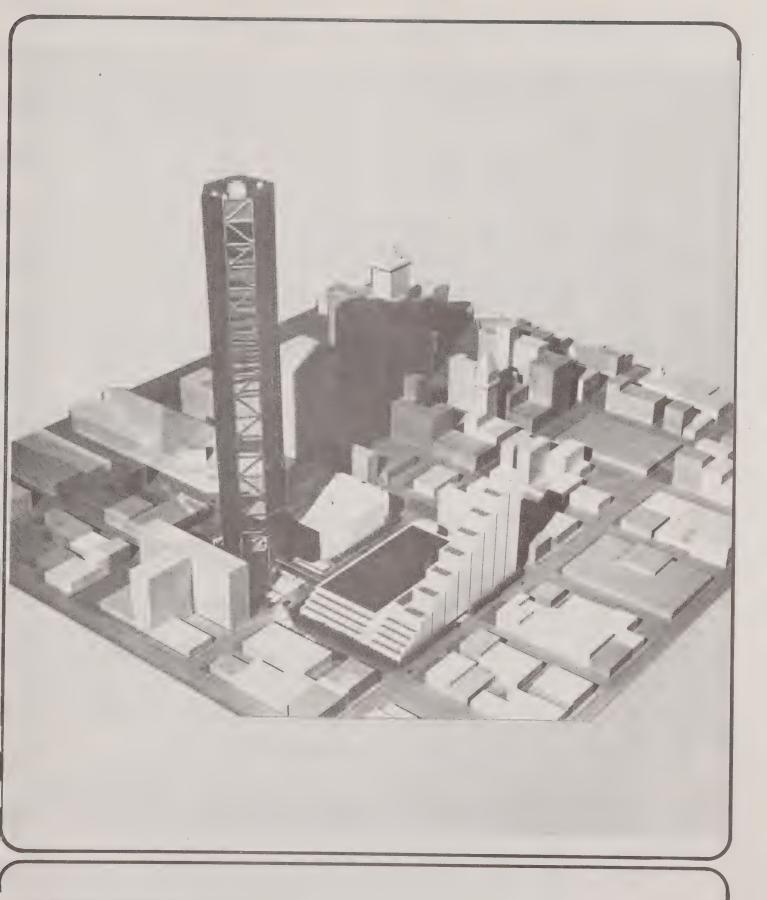
1. Description

This alternative would place the 400 proposed housing units a single large structure rather than in the two 25-story towers proposed. The structure would be a long slab stretching 450 feet along Webster Street, and rising in 6 terraces from a 30-foot height along 9th Street to 300 feet along 11th Street (see Figure 76). The office structure would be the same as under the proposed project, and the basic development program (number of units, square feet of office and commercial space, parking spaces) would not be significantly changed (see Figure 74).

2. <u>Mitigation Measures Incorporated Into the Alternative</u>

As the housing, office, commercial and parking program would not significantly differ from the proposed project, this alternative's impacts would differ in the areas of visual quality and urban design:

- a. This alternative would permit maximum sunlight to fall on the garage roof plaza, and the building steps would allow southern sun to reach the housing balconies.
- b. The slab's length would contrast with the slender office tower.



Alternative 3

SOURCE: EIP Corp.

3. New Impacts Created by the Alternative

- a. The stepped slab would be a distinctive form that would stand out in Oakland's skyline.
- b. The stepped design would be more massive than the housing towers of the proposed project and would block more views when seen from the east or west. Its mass would be most clearly perceived from 10th Street and areas to the east. Unless the Webster Street length received careful architectural treatment to break up its mass, the slab would appear as a long, monolithic wall, a barrier to the project from the community.
- c. The housing structure would tend to dominate Webster Street rather than relate to the 10th Street Corridor.

4. Reasons Not Selected

This alternative was rejected because of the difficulty of programming internal circulation and because of its negative visual impacts.

E. ALTERNATIVE 4: 600 UNITS OF HOUSING

I. Description

Under this alternative the housing program would be for 600 rather than 400 units, although the building's overall gross area and outside design would remain the same as in the proposed project. The units would be predominantly I bedroom and studio apartments as opposed to the 2-bedroom units which are expected to predominate in the proposed project.

2. Mitigation Measures Incorporated Into the Alternative

- a. The smaller units predominating in this housing alternative would be likely to result in fewer school-age children residing in the project, reducing the impact on the school district.
- b. The larger number of residences would contribute to the vitality of the area by increasing local consumer purchases and the nighttime population of the area.

c. Tax and utility revenues would be higher than with 400 units.

3. New Impacts Resulting From The Alternative

- a. The dedication of 200 more of the on-site parking spaces to use by residents would increase the shortfall of on-site parking relative to induced demand.
- b. There would be slight increases in traffic and air quality impacts due to the increased adult population.
- c. Demand for energy, public and community services would increase slightly.
- d. Transportation impacts would include 6% increases in daily person trips and in parking demand.

4. Reasons Not Selected

This alternative is still an option under consideration by the project sponsor pending further market study of local housing demand.

F. ALTERNATIVE 5: LOWER HOUSING DENSITY IN LOWER TOWERS

I. Description

In this alternative the housing provided by the project would be reduced from 400 to as few as 200 units. These units would be located in towers similar in form to the proposed 30-story towers, but somewhat shorter. At the low extreme of this range the towers would be 15 rather than 30 stories apiece, and the height might be 176 feet rather than 326 feet above sidewalk level. The other elements of the project would remain as proposed.

2. <u>Mitigation Measures Incorporated Into This Alternative</u>

- a. Demand for energy and community services wold be somewhat lower than in the 400-unit alternative.
- b. Transportation impacts and in particular the shortfall in on-site parking relative to demand would be reduced. This alternative would make an additional 200 parking spaces available to the office and commercial space, while daily person trips would be reduced to 23,000.

- c. When viewed from the east (Asian Resource Center, Lincoln Neighborhood Center), this alternative would not block the viewer's sky views to the west, vista and sense of openness as much as would the proposed project.
- d. From the downtown, this alternative would appear less as a visual wall, blocking fewer views to and from the south and southeast than the proposed project.
- e. It would block fewer views to the hills and to the Lake Merritt area from the existing City Center Condominiums and from the proposed office tower.
- f. The shorter buildings would cast shorter shadows on the garage roof open space and on buildings to the north.
- g. The housing towers in this alternative would be less visible from more regional locations because of intervening tall buildings than the housing towers of the proposed project.
- h. Daily person trips and parking demand would be decreased by about 6% compared to the proposed project.

3. New Impacts Created By This Alternative

- a. The contribution of the proposed project to the local housing stock would be reduced.
- b. The contribution to the area's 24-hour population would be reduced, reducing in turn the pedestrian vitality and contributions to local retail and restaurant business.
- c. Tax revenues deriving from the project would be slightly reduced, although this impact would be somewhat offset by reduced demand for community services.
- d. Because they would retain the large foot-prints of the 30-story towers, the shorter towers would appear bulkier than the proposed project. Careful treatment of their upper stories would be needed so that they would appear slender rather than bulky.

4. Reasons Not Selected

This alternative is still under consideration as a viable alternative pending further market study.

G. ALTERNATIVE 6: BUILDING PROGRAM INCORPORATING PROPOSED MITIGATION MEASURES

I. Description

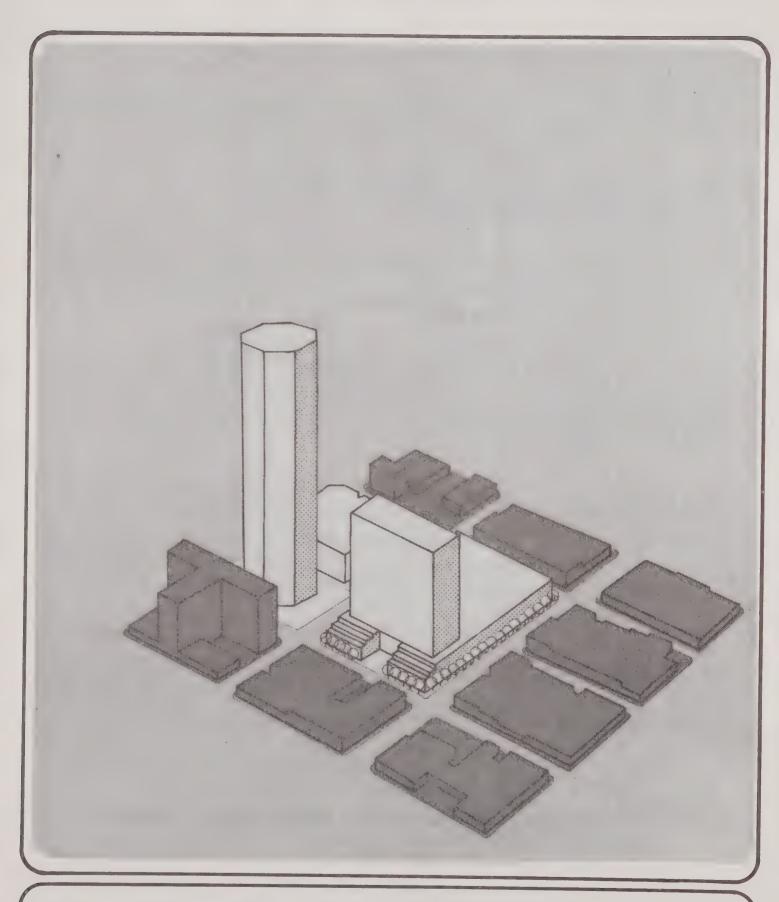
This alternative involves a building program incorporating mitigation measures for a variety of impacts of the proposed project. It involves changes in both the office and housing programs for the proposed project.

The office program for this alternative would utilize the 45-story octagonal tower proposed in Alternative I, but without the accompanying 20-story addition to the Phase I building proposed under that alternative. Thus the office space program would be reduced by 68%, to 1,050,000 overall gross square feet.

The housing program would remain at 400 units and 512,270 gross square feet, but the units would be contained in one 24-story building along the southeast block's Webster Street edge (see Figure 77). The structure would be located above 4 levels of above-grade parking, compared to 5 for the proposed project. Pedestrian and drop-off access to the housing units would be on 9th Street rather than through the courtyard at 10th and Webster Streets in the proposed project.

2. Mitigation Measures Incoroporated Into The Alternative

- a. The 45-story office tower would be visually less obtrusive and would not break the downtown skyline as abruptly as would a 68-story tower.
- b. Shadow and wind impacts would be reduced by the shorter office tower.
- c. Net office space would be reduced by 22%, reducing the projected office population from 6,400 to about 4,975 workers. This reduction would effect proportional reductions in impacts including transportation, air quality, energy consumption, and demands for community services.



Alternative 6

- d. Trip generation and parking demand would be decreased about 19% compared to the proposed project.
- e. Shifting the location of the housing entirely to the site's southern frontage would reduce shadow and view obstruction impacts upon buildings north of 11th Street.
- f. The alternative would allow the proposed 2,000 parking spaces to be provided in a 4-level rather than 5-level structure.
- g. The alternative, when viewed from the Lincoln Neighborhood Center, would not block sky views as much as would the proposed project.

3. New Impacts Created by the Alternative

- a. The 45-story tower would be less of a landmark building for downtown Oakland than the 68-story office tower of the proposed project.
- b. The 22% reduction in net office floor space would reduce the contribution to Oakland's economic revitalization.
- c. The reduction in potential employment from 6,400 to 4,975 jobs would reduce the contributions the project could make to job development and tax base in Oakland.
- d. The massing of all housing units along 9th Street would create a high-rise wall that would dominate the pedestrian environment of that street.
- e. The massing of housing along the southern edge of the eastern blocks would produce shadows on the rooftop open space during much of the day, reducing the recreational and plaza amenity of that area.
- f. Placing the housing's parking entry on 9th Street would break that block's proposed commercial frontage and would create a less attractive sidewalk area than the proposed project.
- g. Careful treatment of the long garage frontages on Webster, Franklin and 11th Streets would be needed to maintain those streets as pleasant places to walk.

- h. For office workers in adjacent high-rise buildings to the north, this alternative would increase the perception of an east-west wall. It would block more views to and from the south than would the proposed project.
- i. The alternative's east-west orientation along the block's southern edge would shade the garage roof's open space during much of the day. It is likely that the pool and outdoor sitting areas would be underused.
- j. The alternative's double-loaded corridor arrangement would reduce by one-half the number of corner units (with their cross ventilation and corner views) compared to the proposed project.
- k. Unless there would be multiple lobbies, a long unrelieved double loaded corridor would serve the units on each floor. The proposed project's corridor would be shorter and more pleasant to walk through.
- 1. Views west along 10th Street would be directly to the parking structure rather than to the housing towers' landscaped courtyard.

4. Reasons Not Selected

The proposed alternative would not be considered an economically feasible project be ause of a number of elements that would reduce the market value of the space provided. The net revenue form office rentals would be reduced by at least 22%, proportionate to the loss of that amount of net space in the alternative program. The housing would have alower market value because of the reduction in number of corner units, the double-loaded corridor feature, and because the associated open space would be in shadow frequently. Finally, the project would be less of a 'landmark building' for Oakland. For these reasons the alternative would under-utilize the site and provide an inadequate return on the investment.

VIII. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Development of the high-intensity proposed project would preclude future options for other land uses on the site. Construction activities would take place during the short term as compared to the long-term period over which the project would exist.

Site development would have cumulative long-term effects in that it would deplete the supply of fossil fuels and natural construction materials. It would cumulatively increase traffic on the local street system as well as the Nimitz and Grove-Shafter Freeways.

Office and residential development would significantly increase property tax revenues paid to the City over the long-term life of the project. The development would generate an estimated \$3.15 million a year in property tax.

The proposed development in conjunction with other new and proposed development in the vicinity could cumulatively have a moderate short and long-term effect on the City's ability to provide services to the site and the City as a whole, particularly in the areas of fire and police services.

The proposed project, in its compact form as a unified center, represents the revitalization of an existing urban area already served by utilities and transportation facilities.

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16	R. Nichelini, Lieutenant, Oakland Police Department
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18	Peter Sarna, Lieutenant, Oakland Police Department
19	Paul Bailey, Fire Marshall, Oakland Fire Department
20	Bob Long, Coordinator of Property Management, Oakland Unified School District
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23	John Soderling, Traffic Engineer, Division of Traffic Engineering and Parking
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25	Rodney Jung, Engineer, EBMUD
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27	Bill McGowen, Associate Civil Engineer, PG&E
28	AI Stuebing, Industrial Power Engineer, PG&E
29	Nancy Elbing, Customer Service Representative, PG&E
30	Ron Proto, Engineering Manager, Oakland Scavenger Company
31	Ben Morita, Deputy Auditor, Alameda County
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APPENDICES



APPENDIX A

FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL NOISE



This section provides background information to aid in understanding the technical aspects of this report.

Three dimensions of environmental noise are important in determining subjective response. These are:

- a. the intensity or level of the sound;
- b. the frequency spectrum of the sound;
- c. the time-varying character of the sound.

Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing.

The "frequency" of a sound refers to the number of complete pressure fluctuations per second in the sound. The unit of measurement is the cycle per second (cps) or Hertz (Hz). Most of the sounds which we hear in the environment do not consist of a single frequency, but of a broad band of frequencies, differing in level. The quantitative expression of the frequency and level content of a sound is its sound spectrum. A sound spectrum for engineering purposes is typically described in terms of octave bands which separate the audible frequency range (for human beings, from about 20 to 20,000 Hz) into ten segments.

Many rating methods have been devised to permit comparisons of sounds having quite different spectra. Fortunately, the simplest method correlates with human response practically as well as the more complex methods. This method consists of evaluating all of the frequencies of a sound in accordance with a weighting that progressively and severely deemphasizes the importance of frequency components below 1000 Hz, with mild deemphasis above 5000 Hz. This type of frequency weighting reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency midrange.

The weighting curve described above is called "A" weighting, and the level so measured is called the "A-weighted sound level", or simply "A-level".

The A-level in decibels is expressed "dBA"; the appended letter "A" is a reminder of the particular kind of weighting used for the measurement. In practice, the A-level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. All U.S. and international standard sound level meters include such a filter. Typical A-levels measured in the environment and in industry are shown in Figure A-1.

Although the A-level may adequately describe environmental noise at any instant in time, the fact is that the community noise level varies continuously. Most environmental noise includes a conglomeration of distant noise sources which

creates a relatively steady background noise in which no particular source is identifiable. These distant sources may include traffic, wind in trees, industrial activities, etc. These noise sources are relatively constant from moment to moment, but vary slowly from hour to hour as natural forces change or as human activity follows its daily cycle. Superimposed on this slowly varying background is a succession of identifiable noisy events of brief duration. These may include nearby activities or single vehicle passages, aircraft flyovers, etc., which cause the environmental noise level to vary from instant to instant.

To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50, and L90 are commonly used. The L10 is the A-weighted sound level equaled or exceeded during 10 percent of a stated time period. The L10 is considered a good measure of the "average peak" noise. The L50 is the A-weighted sound level that is equaled or exceeded 50 percent of a stated time period. The L50 represents the median sound level. The L90 is the A-weighted sound level equaled or exceeded during 90 percent of a stated time period. The L90 is used to describe the background noise.

As it is often cumbersome to describe the noise environment with these statistical descriptors, a single number descriptor called the Leq is also widely used. The Leq is defined as the equivalent steady-state sound level which in a stated period of time would contain the same acoustic energy as the time-varying sound level during the same time period. The Leq is particularly useful in describing the subjective change in an environment where the source of noise remains the same but there is change in the level of activity. Widening roads and/or increasing traffic are examples of this kind of situation.

In determining the daily measure of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises.

During the nighttime, exterior background noises are generally lower than the daytime levels. However most household noise also decreases at night and exterior noises become very noticeable. Further most people are sleeping at night and are very sensitive to noise intrusion.

To account for human sensitivity to nighttime noise levels a descriptor, Ldn, (day-night equivalent sound level) was developed. The Ldn divides the 24-hour day into the daytime of 7 am to 10 pm and the nighttime of 10 pm to 7 am. The nighttime noise level is weighted 10 dB higher than the daytime noise level. The Ldn, then, is the A-weighted average sound level in decibels during a 24-hour period with 10 dBA added to the hourly Leqs during the nighttime. For highway noise environments the Leq during the peak traffic hour is approximately equal to the Ldn.

The effects of noise on people can be listed in three general categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- 2) interference with activities such as speech, sleep, learning;
- 3) physiological effects such as startle, hearing loss.

The sound levels associated with environmental noise, in almost every case, produce effects only in the first two categories. Unfortunately, there is as yet no completely satisfactory measure of the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual past experiences with noise.

Thus, an important parameter in determining a person's subjective reaction to a new noise is the existing noise environment to which one has adapted: the so-called "ambient" noise. "Ambient" is defined as "the all-encompassing noise associated with a given environment, being a composite of sounds from many sources, near and far". In general, the more a new noise exceeds the previously existing ambient, the less acceptable the new noise will be judged by the hearers.

acceptable the new noise will be judged by the hearers.

With regard to increases in noise level, knowledge of the following relationships will be helpful in understanding the quantitative sections of this report:

- a) Except in carefully controlled laboratory experiments, a change of only 1 dBA cannot be perceived.
- b) Outside of the laboratory, a 3-dBA change is considered a just-noticeable difference.
- c) A change in level of at least 5 dBA is required before any noticeable change in community response would be expected.
- d) A 10-dBA change is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response.

A-WEIGHTED SOUND PRESSURE LEVEL. IN DECIBELS 140 THRESHOLD OF PAIN 130 CIVIL DEFENSE SIREN (100') 120 JET TAKEOFF (200') 110 RIVETING MACHINE ROCK MUSIC BAND PILEDRIVER (50') 100 DIESEL BUS (15') AMBULANCE SIREN (100') 90 BOILER ROOM BAY AREA RAPID TRANSIT TRAIN PASSBY (10') PRINTING PRESS PLANT 80 PNEUMATIC DRILL (50') GARBAGE DISPOSAL IN HOME (3') INSIDE SPORTS CAR, 50 MPH SF MUNI LIGHT-RAIL VEHICLE (35') 70 FREIGHT CARS (100') 60 VACUUM CLEANER (10') DATA PROCESSING CENTER SPEECH (1') DEPARTMENT STORE AUTO TRAFFIC NEAR FREEWAY 50 PRIVATE BUSINESS OFFICE LARGE TRANSFORMER (200') LIGHT TRAFFIC (100') 40 AVERAGE RESIDENCE TYPICAL MINIMUM NIGHTTIME LEVELS---RESIDENTIAL AREAS 30 SOFT WHISPER (5') 20 RUSTLING LEAVES RECORDING STUDIO 10 THRESHOLD OF HEARING MOSQUITO (3') 0 (100') = DISTANCE IN FEET BETWEEN SOURCE AND LISTENER

FIGURE A-1: TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT AND INDUSTRY

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APPENDIX B

Phase I of the Trans Pacific Centre is under construction at the northwest corner of the site, and is scheduled to be completed by October 1982. Phase I is a 6-story office/retail building with 2 underground levels of parking.

The remainder of the Trans Pacific Centre contains 3 distinct elements: a highrise office tower 2 residential towers and a parking structure. The 68-story octagonal office tower at Broadway and 9th Streets would be 1000 feet tall. Residential towers of 30 stories would be located on Webster Street at the 9th Street and 11th Street corners. A parking garage would be located along the western Franklin Street portion of the 2 housing blocks. A multi-tiered plaza at the building base would step-up from Broadway, with multiple rows of tiers.

I. MODEL AND WIND TUNNEL FACILITIES

Model

A scale model of the proposed project and the structures surrounding the area for a distance of several blocks were constructed of polystyrene and urethene foams at a scale of I inch equals 37 feet. Building configurations and heights were obtained from the maps at the Oakland Department of City Planning and from site visits.

Wind Tunnel Facilities

The Environmental Impact Planning Corporation boundary layer wind tunnel was designed specifically for testing architectural models. The working section is 7 feet wide, 43 feet long, and 5 feet high. Wind velocities in the tunnel can be varied from 3.5 mph to 13 mph. The flow characteristics around sharp-edged objects, such as architectural models, are constant over the entire speed range. Low speeds are used for tracer smoke, high speeds for windspeed measurements.

Simulation of the characteristics of the natural wind is facilitated by an arrangement of turbulence generators and roughness upwind of the test section. These allow adjustments in wind characteristics to provide for different scale models and varying terrain upwind of the project site.

Measurements of windspeed around the model are made with a hotwire anemometer, a device that relates the cooling effect of the wind on a heated wire to the actual windspeed. The flow above the city is measured by a Pitot tube connected to a micromanometer. The Pitot tube and micromanometer measure directly the pressure difference between moving and still air. This pressure difference is then related to the actual windspeed. Flow visualization is achieved by use of floodlit smoke.

II. TESTING METHODOLOGY

Simulation of Flow

The most important factors in ensuring similarity between flow around a model in a wind tunnel and flow around the actual building are the structure of the approach flow and the geometric similarity between the model and the prototype. A theoretical discussion of

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the exact criteria for similarity is not included in this paper, but may be found elsewhere (Cermak, 1966, or Cermak and Arya, 1970).

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The variation of windspeed with height (wind profile) was adjusted for the scale of the model and the type of terrain upwind of the site. The profiles used were those generally accepted as adequately describing the flow over that type of terrain (Lloyd, 1967).

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Testing Procedure

The windflow characteristics of the site in its current state were investigated to ascertain the present wind environment. Windspeeds and wind directions at specified points throughout the site were measured and recorded. Wind direction was measured by releasing smoke at each point and recording the direction in which the smoke traveled. Windspeed measurements were made at the same points, at a scale height of 5 feet above the ground. A hotwire anemometer probe is required to make these measurements within a fraction of an inch of the model surfaces. The probe is repeatedly calibrated against the absolute reading of a Pitot tube and micromanometer. Velocity readings close to the model are generally accurate to within 10% of the true velocity.

Measurements for the building are made by keeping the probe in place while replacing the existing buildings with each proposal under consideration.

Before and after each test run, a calibration measurement was made above the model. The purpose of these measurements was to relate the wind tunnel measurements to actual wind records from the Alameda Naval Air Station wind instrumentation located west of the site.

Data Analysis

The results of wind tunnel tests are measured windspeeds at selected locations on the scale model. To make this data applicable to the real world and comparable to data from other tunnels or other tests at different scales it must be expressed in terms of a calibration speed. This calibration speed is normally taken as the free-stream velocity above the model (above the "boundary layer" formed by surface friction).

The calibration speed can be used within an assumed wind profile (variation with height) to relate measured wind tunnel data with statistics at a nearby meteorological station. Alameda Naval Air Station, located about 2 miles west of the site, is an ideal choice. Wind-tunnel measurements have therefore been expressed as a percentage of windspeed at the Alameda Air Station.

III. IMPACT CRITERIA

Expressing wind tunnel data in terms of a reference velocity at Alameda Naval Air Station allows use of statistical data for Alameda Naval Air Station to determine impact criteria.

The primary impacts of wind in the Oakland area are human discomfort, and in extreme cases, human safety. Theoretical and empirical attempts to determine human comfort criteria in a cool climate such as Oakland's have not yielded a simple criterion. Obviously, variables such as temperature, clothing levels, levels of activity and insolation have to be considered. In the absence of usable thermal comfort criterion, a criterion based on physical effect is often used. Physical effects that cause pedestrian discomfort

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are wind-blown dust, the blowing of hair and flapping of clothes, and interference with contact lenses. These physical effects all begin to occur at a windspeed of 11 mph.

Windspeeds of 35 mph can conceivably unbalance an elderly pedestrian, and represents a hazardous condition. Winds this strong are seldom meausured at Alameda Naval Air Station, with a frequency of less than 0.1% of the time. However, highrise buildings can accelerate winds in localized areas well above the ambient windspeed.

In this report, measured data have been expressed as a ratio, expressed as a percentage of the reference speed (Alameda NAS) thus, a plotted value of 90 means that the mean wind at that location is expected to be 90% of that at Alameda Naval Air Station when the wind is blowing from the direction in question. As the wind at Alameda Naval Air Station is not affected by buildings or other obstructions, it represents an undisturbed Plotted values exceeding 100 show an acceleration caused by nearby structures; plotted values below 100 show sheltering by nearby buildings.

It is possible to calculate a windspeed ratio that corresponds to a mean wind of 11 mph, the discomfort criteria. For Figures 1-3, a plotted value exceeding 115 signifies that the mean windspeed at that location exceeds 11 mph.

A similar calculation for the 35 mph hazard criterion yields a value of 160. Plotted values higher than this indicate that the 35 mph criterion will be exceeded more than 5% of the time.

IV. TEST RESULTS AND DISCUSSION

Tests were conducted for northwest, west and southwest winds. Winds are from these directions, over 60% of the time in Oakland, and tend to be the strongest winds, averaging 9.5 mph.

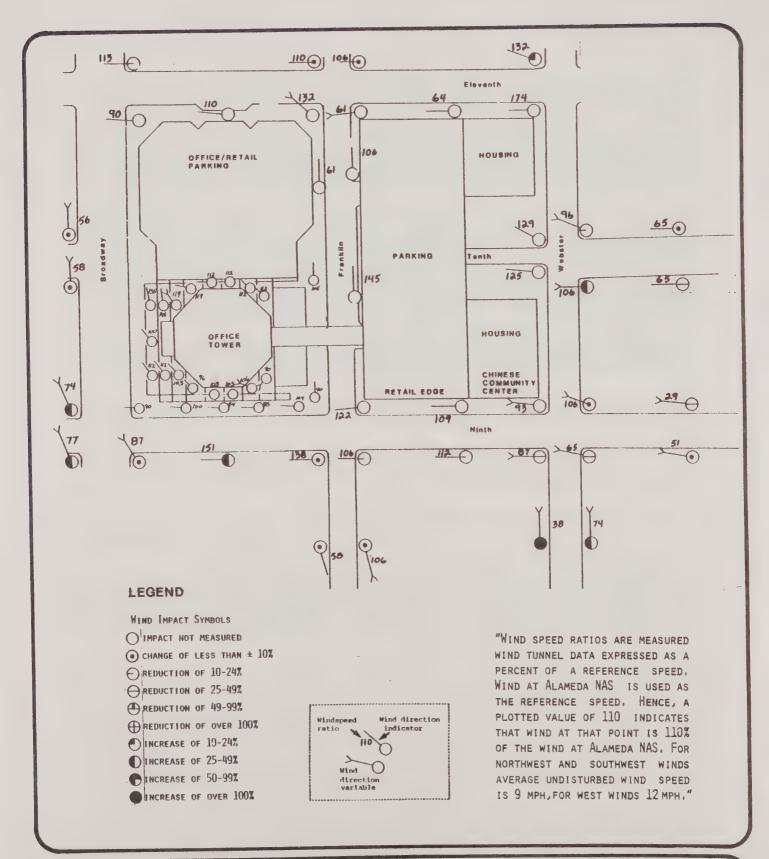
Wind tunnel results are shown in Figures 1-3. Three types of data are shown. The circles indicate measurement locations. Wind direction is indicated by a "vane". The measured windspeed expressed as a percentage of the reference velocity is plotted next to the vane. For measurement points outside the site, the degree of change in windspeed ratio caused by the project is symbolized within the circle.

Northwest Winds

Northwest winds occur 15.1% of the time at Oakland. Wind tunnel results for northwest winds are shown in Figure 1. The comfort criterion (windspeed ratio of 115) is exceeded at the southwest corner of Eleventh and Franklin, northwest of the office tower, across Ninth Street from the office tower, (adjacent the City Center Towers), at the 11th Street/Webster intersection and at the parking structure entrance at 10th Street and Webster.

Windspeed increases off the site are greatest at the westside of the 9th Street/Broadway intersection in front of the City Center Towers and near the Webster/10th Street Intersection. Ninth Street between Franklin and Webster and areas east of the site generally were sheltered by the project.

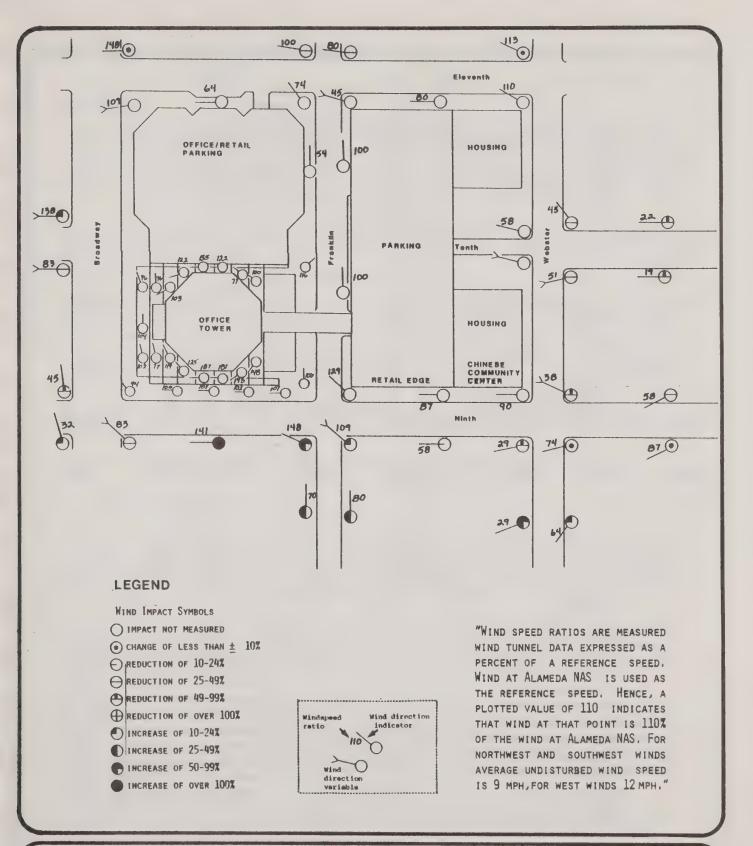
The safety criterion of 160 was not exceeded at any of the measurement locations.



Wind Impact Analysis Northwest Winds



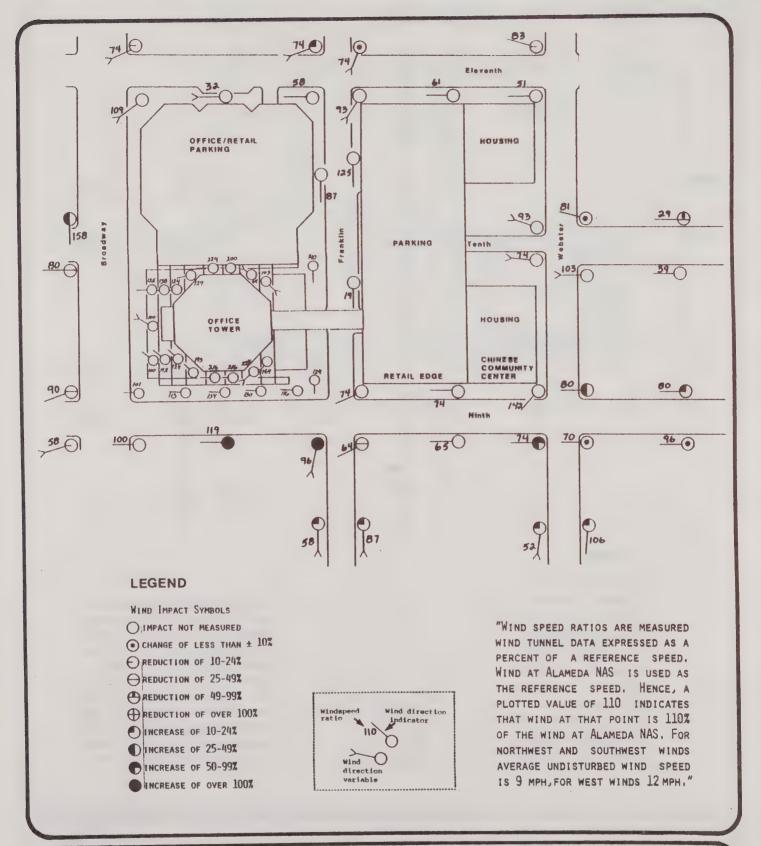
Figure No.1



Wind Impact Analysis West Winds



Figure No. 2



Wind Impact Analysis Southwest Winds



Figure No.3

West Winds

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West is the most frequent wind direction in Oakland, occurring 31.6% of the time. Wind tunnel results for westwinds are shown in Figure 2. Windspeed ratios exceed the 115 comfort criterion near the north & south sides of the office tower, across 9th St., from the office tower, at the northeast corner of the 9th Street/Franklin Street intersection, and at the northeast corner of the Broadway/IIth Street intersection.

The safety criterion is exceeded at the south end of the office tower, where winds are nearly doubled by the presence of the office tower and the City Center Towers.

Southwest Winds

Southwest winds occur about 14% of the time in Oakland. Wind tunnel results for southwest winds are shown in Figure 3. Windspeed ratios exceed the 115 comfort criterion north of the Broadway/10th Street intersection, south, north and east of the office tower, on both sides of 9th Street adjacent the office tower, along the eastside of Franklin between 9th and 11th Streets and at the northwest corner of the Webster/9th Street intersection.

The project generally caused increases south of the project, and decreases to the east and north.

The safety criterion of 160 is exceeded south and southeast of the office tower.

V. MITIGATION MEASURES

The general exceedance of both the comfort criterion and the safety criterion near the base of the office tower indicate the need for mitigation in this area. The probable reason for these high winds is the height of the building, its proximity to the City Center Towers and the fact that the proposed building is entirely exposed to prevailing winds.

The slender tower design is not likely a contributor to winds at the tower base, nor is the octagonal slope. These two designs features normally would result in little wind impact (computed to more squat or wide shapes). Different tower shapes would not therefore, be expected to mitigate wind impacts.

A well documented means of reducing wind accelerations near tower bases is to place the tower atop a low-rise base building or alternatively, build a canopy out from the bases of the tower. For the Trans Pacific project, such a base would ideally be 2 to 5 stories in height. Under this situation, the strong winds occur atop the base, rather than at ground level. The effectiveness of such a design change can be determined by additional wind tunnel tests.

A second type of mitigation measures involves additions to the project that would provide local shelter for pedestrians. Small structures such as kiosks for newspaper or flower vendors, telephone booths, and shelters at bus stops can serve in this way. Similarly, street trees and other vegetation can function as windbreaks.

Such measures would be advisable throughout the project and along neighboring streets particularly along 9th Street and near the Webster/10th Street intersection.



APPENDIX C

TRANSPORTATION IMPACT METHODOLOGY

1. Trip Generation, Distribution and Mode Split of Proposed Project

Trip generation for the proposed project was estimated using generation rates based on

- <u>Trip Generation Manual</u>, 2nd Edition, Institute of Transportation Engineering 1979;
- Traffic Generation for Oakland City Center Project, Barton Aschman Associates, August 1976; and
- San Francisco City Planning Department, <u>Guidelines for Environmental</u> Evaluation: Transportation Impacts, October 1980.

Vehicle trip generation rates were converted to person trip generation rates assuming auto occupancy rates as specified in these sources (where available). Otherwise auto occupancy rates of 1.1 to 1.3 were assumed depending upon the land use.

Trip distribution and mode split were estimated based upon information in:

- "MTC FCAST Travel Demand Models," 1977, special run for downtown Oakland;
- "Kaiser Center Employee Survey," November 1981, by DKS Associates; and
- "Oakland City Center Survey," November 1981, Grubb and Ellis Company.

The trip distribution and mode split assumptions used for Trans Pacific Centre are given in Table 6.

Transit mode split for future office projects in Downtown Oakland was increased from the existing 47 percent to 54 percent in 1990 to reflect increased development density in downtown Oakland and potential parking shortages. Higher peak hour auto occupancies (changing from 1.14 in 1982 to 1.4 in 1990) were also assumed. No changes were made in future mode split for non-office developments.

2. Traffic Impact Analysis

The 1984 and 1990 traffic impacts were estimated using a computer model called TRACS for calculating levels of service on a street network. The level of service calculations were made according to the "Critical Movement Analysis" method described in Transportation Research Board Circular No. 212, January 1980. The vehicle trip generation assumptions used in the TRACS model are given in Table C-1.

Street assignments for Trans Pacific Centre traffic were as follows:

Gateway	#1	-	Nimitz Freeway Northbound	16%
	#2		Fourteenth Street Westbound	1%
	#3	-	San Pablo Avenue Northbound	2%
	#4	-	I-980 Eastbound	35%
	#5	-	Broadway	2%
	#6	-	Grand/Harrison Eastbound	6%
•	<i>#</i> 7	-	Fourteenth Street Eastbound	7%
	#8	-	Nimitz Freeway Southbound	23%
	#9	-	Alameda	_8%
				100%

The trips generated by other projects in the vicinity of Trans Pacific Centre were distributed similarly. Slight variations in the specific street assignments were made to reflect locational differences.

Proposed projects in the vicinity of Kaiser Center were loaded according to the following pattern:

Gateway	#1	-	Nimitz Freeway Northbound	9%
	#2	-	Fourteenth Street Westbound	1%
	#3	-	San Pablo Avenue Northbound	2%
	#4	-	I-980 Eastbound	42%
	<i>#</i> 5	-	Broadway Eastbound	2%

Table C-1 VEHICLE TRIP GENERATION RATES Two-Way Vehicle Trips

		Generation	Rate	PM Peak	Peak Hour
Office (1984)	Units 1,000 GSF	Daily 6.4	Peak Hour	Hour% 20%	In/Out Split 25%/75%
Office (1990)	1,000 GSF	4.5	0.9	20%	25%/75%
Commercial	1,000 GSF	6.2	0.6	10%	50%/50%
Commercial	1,000 431	0.2	0.0	1070	30 10, 30 10
Hotel	Room	2.9	0.2	7%	50%/50%
Residential	Dwelling				
	Unit	0.9	0.3	12%	67%/33%

1 APPENDIX C

#6	-	Grand/Harrison	6%
<i>#</i> 7	-	Fourteenth Street Eastbound	7%
#8	-	Nimitz Freeway Southbound	23%
#9	-	Alameda	8%

3. Transit Impact Analysis

Existing ridership and capacity data were obtained from the planning departments of AC Transit and BART. This information was supplemented by a peak hour load check made at 11th and Jackson Streets by DKS Associates in December 1981.

Based on BART's <u>Final Draft, 1981 Short Range Transit Plan</u>, May 22, 1981, it was assumed that BART's current peak hour capacity would be increased by 7 percent by 1984 and by 71 percent by 1990. Background growth in peak hour BART ridership was estimated to be 4.1 percent per year based upon BART forecasts (page 43, 1981 <u>Short Range Transit Plan</u>).

Based on AC Transit's <u>Five Year Plan: 1982-1986</u>, May 13, 1981 no capacity increases were conservatively projected for downtown Oakland service. Background patronage growth for downtown Oakland service (i.e., with no new construction in downtown Oakland) was estimated to be roughly 0.5 percent per year. Historic growth (1978 to 1980) on the entire AC Transit system has averaged 2.5 percent per year (page 14, <u>Five Year Plan</u>).

The PM peak hour transit trips generated by Trans Pacific Centre were assigned to general geographical areas based on the previously cited trip distribution data. These trips were then assigned to individual AC Transit and BART lines in proportion to their current ridership.

4. Parking Impact Analysis

The total daily vehicle trips generated by the office portion of the project were split into 55 percent work trips and 45 percent non-work trips based upon data developed by the

 City of San Francisco Planning Department. For commercial development total daily vehicle trips were split into 15 percent work trips and 85 percent non-work trips based upon comparisons of typical employee densities with daily trip generation rates. The work trips were assumed to be long-term parkers. The non-work trips were assumed to be short-term parkers.

Short term parkers were assumed to have a turnover rate of four cars per space-day based upon typical turnover rates for shopper and visitor trips. Long term parkers were assumed to turnover at the rate of one car per space-day.

Off-street parking spaces unutilized presently may be able to absorb a portion of the future parking deficit. The present occupancy in the vicinity of Trans Pacific Centre is 81 percent. Potentially, 310 spaces would be available for new project demands (increase occupancy ratio to 90 percent).

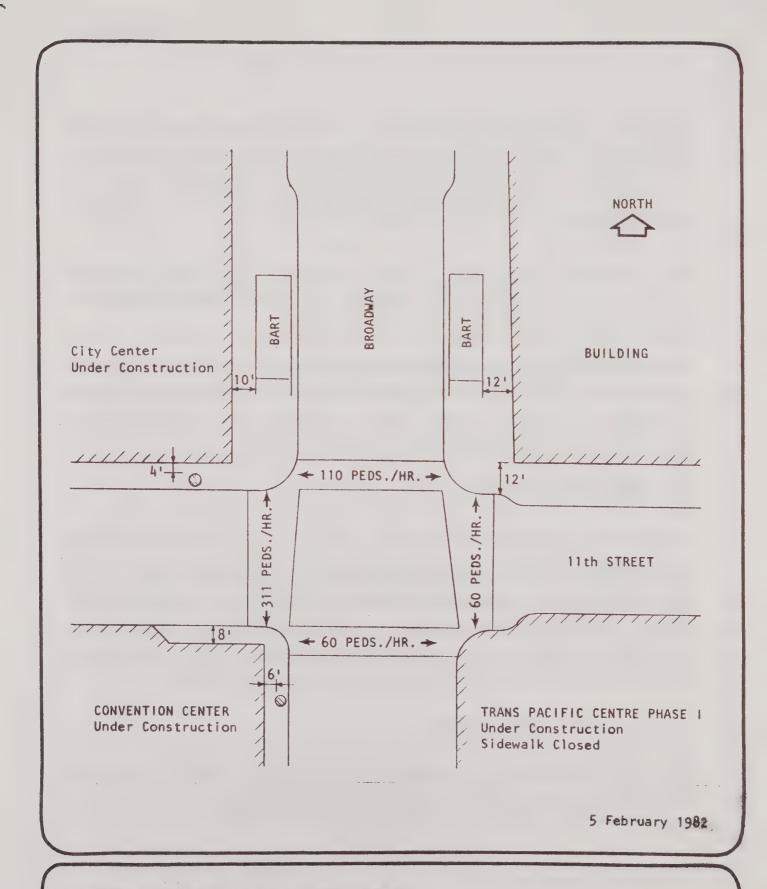
5. Pedestrian Impact Analysis

The pedestrian trips generated by the project during the noon hour were assumed to be roughly equal to the population of the project. Noon hour pedestrian trips were split 30 percent to retail uses on-site and 70 percent to destinations off-site. PM peak hour trips were estimated to be equal to the total PM peak hour person trip generation of the project. All BART trips were assigned to the crosswalks at 11th and Broadway. Pedestrian count data for existing conditions at this intersection is given in Figures C-1 and C-2. Definitions of pedestrian levels of service are given in Figure C-3.

6. Service Vehicle Impact Analysis

The truck trip generation data contained in the Wilbur Smith Associates, <u>Central City</u> Circulation Program, Goods Movement Study, Working Paper #2, December 1979 was used to generally estimate the service/delivery vehicle trips generated by the project.

Takes account of 245 existing surface parking spaces removed for site construction.

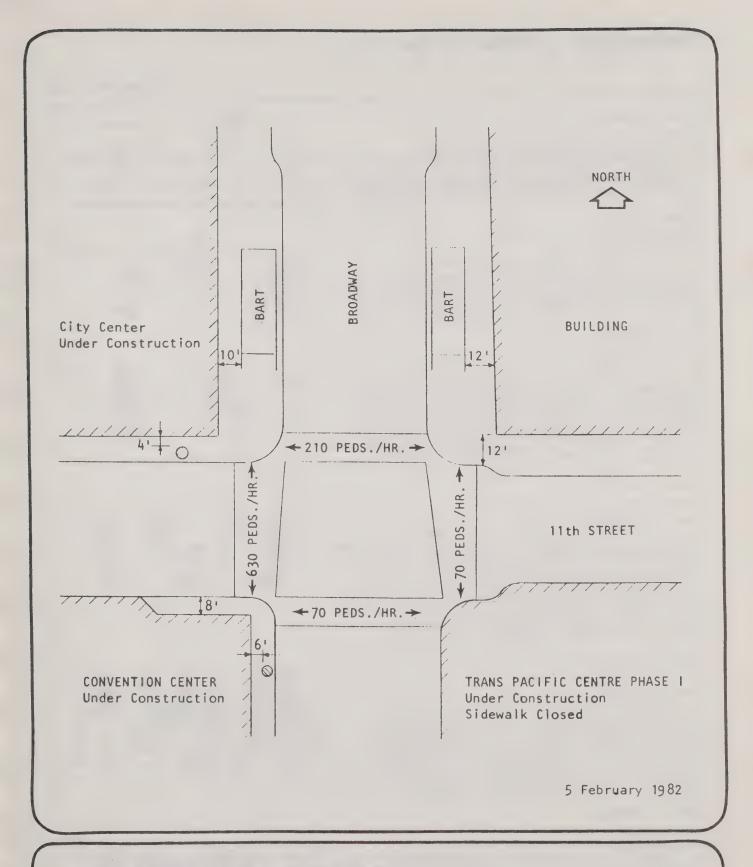


PEDESTRIAN COUNT

12:00 PM - 1:00 PM

SOURCE: DKS Associates

Figure No. C-1



PEDESTRIAN COUNT

4:30 PM -5:30 PM

SOURCE: DKS Associates

Figure No. C-2

Pedestrian Levels of Service

Figure No. C-3

LEVEL OF SERVICE A

Average Pedestrian Space Allocation: At least 40 square feet per pedestrian Average Flow Rate:

6 pedestrians per minute per foot of effective walkway width At walkway level of service A, sufficient area is provided for pedestrians to freely select their own walking speed, to bypass slower pedestrians, and to avoid crossing conflicts with others.

LEVEL OF SERVICE B

Average Pedestrian Space Allocation: 24 - 40 ft.2/ped. Average Flow Rate:

6 - 10 ped./min./ft. effective walkway width

At walkway level of service B, sufficient space is available to select normal walking speed, and to bypass other pedestrians in primarily one-directional flows. Where reverse-direction or pedestrian crossing movements exist, minor conflicts will occur, slightly lowering mean pedestrian speeds and potential volume.

LEVEL OF SERVICE C

Average Pedestrian Space Allocation:

16 - 24 ft.²/ped. Average Flow Rate:

10 - 14 ped./min./ft. effective walkway width

At walkway level of service C, freedom to select individual walking speed and freely pass other pedestrians is restricted. Where pedestrians cross movements reverse flows exist, there is a high probability of conflict requiring frequent adjustment of a high probability of conflict requiring frequent adjustment of speed and direction to avoid contact. Designs consistent with this level of service would represent reasonably fluid flow; however, considerable friction and interaction between pedestrians is likely to occur, particularly in multi-directional flow situations

LEVEL OF SERVICE D

Average Pedestrian Space Allocation:

11 - 16 ft.²/ped.

Average Flow Rate: 14 - 18 ped./min./ft. effective walkway width

At walkway level of service D, the majority of persons would have their normal walking speeds restricted and reduced, due to difficulties in bypassing slower-moving pedestrians and avoiding conflicts. Pedestrians involved in reverse-flow and crossing movements would be severely restricted, with the occurrence of multiple conflicts with others. Designs at this level of service would be representative of the most crowded public areas, where i is necessary to continually alter walking stride and direction to maintain reasonable forward progress. At this level-of-service there is some probability of intermittently reaching critical density, causing momentary stoppages of flow.

LEVEL OF SERVICE E

Average Pedestrian Space Allocation:

6 - 11 ft./ped. Average Flow Rate:

18 - 25 ped./min./ft. effective walkway width

At walkway level of service E, virtually all pedestrians would have their normal walking speeds restricted, requiring frequent adjustments of gait. At the lower end of the range, forward progress would only be made by shuffling. Insufficient area would be available to bypass slower-moving pedestrians. Ext difficulties would be experienced by pedestrians attempting reverse-flow and cross-flow movements. The design volume approaches the maximum attainable capacity of the walkway, with resulting frequent stoppages and interruptions of flow.

LEVEL OF SERVICE F

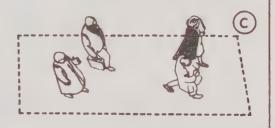
Average Pedestrian Space Allocation: Less than 6 ft. 2/ped.

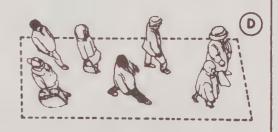
Average Flow Rate:

Variable, less than 25 ped./min./ft. effective walkway width At walkway level of service F, all pedestrian walking speeds are At walkway level of service F, all pedestrian walking speeds are extremely restricted, and forward progress can only be made by shuffling. There would be frequent, unavoidable contact with other pedestrians, and reverse or crossing movements would be virtually impossible. Traffic flow would be sporadic, with forward progress based on the movement of those in front. This level of service is representative of a loss of control, and a complete breakdown in traffic flow. Pedestrian areas below 5 square feet are more representative of queuing, rather than a traffic-flow situation, and this level of service is not recommended for walkway design.













 Supplemental information on truck size, type, and peak arrival rates were obtained from a special survey made of the State Compensation Insurance Building at 1275 Market Street (corner of Market and Ninth) by DKS Associates.



APPENDIX D

ER-6

RECEIVED DEC - 8 1981 City of Oakland File No. ER81-78 Oakland, California Ref. No. INITIAL STUDY California Environmental Quality Act DESCRIPTION OF THE PROJECT 68-story office tower containing 1.5 million gross square feet; two residential towers of up to 30 stories each with a total of 500 units; 2000 car parking sturcture; 75,000-100,000 retail commercial square footage; Chinese Cultural Center. DESCRIPTION OF THE ENVIRONMENTAL SETTING 288,450 square foot site consisting II. of four blocks; site is bounded by Broadway, Webster, 9th and 11th Streets; northwest block and the vacated portion of 10th Street is being developed with a six story office, retail and parking structure: remainder of site contains parking and assorted two and three story buildings; surrounding area contains mixture of parking lots, commercial buildings and a high-rise residential condominium complex. Source or III. ENVIRONMENTAL EFFECTS Maybe No Explanation Geophysical. Will the proposal result in: 1. Unstable earth conditions, including erosion or slides, or changes in geologic substructures either on or off the site? Major changes in topography or ground surface X relief features? Construction on loose fill or other unstable land 1978 Geotechnical which might be subject to slides or liquefaction study Hong Kong USA during an earthquake? 4. Construction within one quarter mile of an earthquake fault? Substantial depletion of a nonrenewable natural resource or inhibition of its extraction? See attachment Air and Water. Will the project result in: 6. Substantial air emissions, deterioration of to Initial Study. ambient air quality or the creation of objectionable odors? Substantial degradation of water quality?

Changed drainage patterns or increased rates

Interception of an aquifier by cuts or excavations?

or quantities of surface water runoff?

D.4 - +	d	Vec	Maybe	No	Source or Explanation
	ic. Will the project:	168	Haybe	110	DAPIGHECION
10.	Reduce the quantity of fish and wildlife in the				
	project vicinity, interfere with migratory or other natural movement patterns, degrade existing				
	habitats or require extensive vegetation removal?			Х	
11.	Reduce the numbers of any rare or endangered				
1.1.	species of plants or animals?			Х	
Land	Use and Socio-Economic Factors. Will the project:				
12.	Conflict with approved plans for the area or the				
J. 4. 0	Oakland Comprehensive Plan?			X	•
13.	Carry the risk of an explosion or the release of				
	hazardous substances, including oil, pesticides,				
	chemicals or radiation?			X	
14.	Require relocation of residents and/or businesses?	X			C Ass 1
15.	Cause a substantial alteration in neighborhood				See Attachment to Initial Stud
	land use, density or character?	X			"
16.	Generate substantially increased vehicular	-		-	
	movement or burden existing streets or				•
	parking facilities?	X			H
17.	Elicit substantial public controversy or			-	
	opposition?		X		
18.	Have a substantial impact on existing trans-	-			
	portation systems or circulation patterns?	X			n .
19.	Result in a substantial increase of the ambient	-		-	
	noise levels for adjoining areas?		X		11
20.	Impose a burden on public services or facilities			-	
	including fire, solid waste disposal, police,				
	schools or parks?			X	*
21.	Impose a burden on existing utilities including				Attachment to
	electricity, gas, water, and sewers?		<u>X</u>	-	Initial Study
22.	Destroy, deface or alter a structure, object,				ļ.
	natural feature or site of historic, architectural,			v	
	archeological or aesthetic significance?		-	X	
23.	Involve an increase of 100 or more feet in the				See Attachment
	height of any structure over any previously	Х			to Initial
	existing adjacent structure?				Study.
Ener	gy: Will the project:				
24.	Use or encourage use of substantial quantities				
	of fuel or energy?	X			T I
		-			

IV.	MAN	DATORY FINDINGS OR SIGNIFICANCE (EIR required if answer stions is "yes" or "maybe".)	to any of the following			
			Yes	Maybe	No	
	a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
	b.	Does the project have the potential to achieve short- term, to the disadvantage of long-term, environmen- tal goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)	<u>x</u>	,		
	c.	Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)	X			
	d.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		******	X	
envi	ronm	yes" or "maybe" answers are marked, describe the specifiental effects involved and their relationship to the pronecessary.) "See Attachment"				
v.	DET	PERMINATION:				
	On	the basis of this initial evaluation:				
		I find the proposed project WILL NOT have a significant environment, and a NEGATIVE DECLARATION will be pre-		ffect on	the	
		I find that although the proposed project could have on the environment, there will not be a significant because the mitigation measures described on an attached to the project. A NEGATIVE DECLARATION will	effect	t in this sheet have	case	
	**	I find the proposed project MAY have a significant ment, and an ENVIRONMENTAL IMPACT REPORT is required. WILLIE YEE JR. Date December	ed.		nviron-	
	Nan	1 0	er 4, 19	981		

ATTACHMENT TO INITIAL STUDY

A. ITEMS MARKED "YES".

- 3. Fills are found locally on the site at depths of up to 16.5 feet according to a geotechnical study completed in 1978 for Hong Kong USA. The applicant has indicated that an updated study will be prepared.
- 14. A fortune cookie bakery, automobile glass repair company, and a garage/office warehouse serving a construction firm will be displaced by the project.
- 15. The proposed office tower and high-rise residential structures will significantly alter the visual character of this area. Although this intensity of uses is permitted by the Central District Urban Renewal Plan and Zoning Regulations their impact should be studied further in an EIR.
- 16 and 18. Traffic generated by this project may severly burden existing circulation routes and parking facilities. A thorough traffic study should be prepared.
- 23. The office building is significantly taller than any adjacent structures.
- Although the project will be designed to comply with current energy conservation standards, it will still use substantial quantities of energy for heating, ventilation, air conditioning, escalators and elevators.

B. ITEMS MARKED "MAYBE".

- 3. Traffic generated by the proposed project may reduce air quality standards in this area of the city.
- 17. Residents and business owners of Chinatown have expressed concern over the scale of the project and traffic generated by the office tower.
- 19. Project traffic may increase the daytime ambient noise level in the area. Noise levels will also increase substantially during the project's construction period.
- 21. It is unknown at this time whether existing utilities will need to be upgraded in order to service the project.

